



**Course Offerings Bulletin
2018-2019**

**THE OHIO STATE
UNIVERSITY**

2018 – 2019 Course Offerings Bulletin

Course information (title, credit hours, level, description, etc.) begins on page one. The most current information regarding new courses, changes to existing courses, Quarter to Semester conversion information, credit hours, sections, days, times, buildings, rooms, and instructors may be found on the Web at <http://registrar.osu.edu/courses> and <http://registrar.osu.edu/scheduling>.

Explanation of a Course Listing

I. Course Heading Information

1102.01 Beginning French II Classroom U 4

Course Number: 1102.01

Course Title: Beginning French II Classroom

Instructional Level: U

U = Undergraduate
 G = Graduate
 D = Dentistry
 M = Medicine
 L = Law
 O = Optometry
 P = Pharmacy
 V = Veterinary Medicine

Credit Hours: 4

II. Main Course Description

Continued study of French; development of listening, reading, speaking, and writing skills; readings based on contemporary French culture and literature. Taught in French.

III. Course Attributes

Prereq: 1101.01, or completion of 4 cr hrs of 1101.51. Not open to students with credit for 102.01. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Semester of offering (not displayed in example): Au, Sp Sems. Su Term.

Au = Autumn Semester
 Sp = Spring Semester
 Su = Summer Term

Prerequisite(s): 1101.01, or completion of 4 cr hrs of 1101.51.

The course number(s) or other information indicate the preparation or classification required to enroll in the course. If no department name is

listed, the number(s) refers to the specific course within the same department. If a department name is listed, all course numbers following that name belong to that department name until another is listed (e.g., Math 1101, 1102, 1103, Chem 1101, and 1102). Enrollment in a course requires the successful completion of all prerequisites or their equivalents. The department, school, or college office should be consulted with questions of eligibility to take a course.

Exclusionary clause: Not open to students with credit for 102.01.

Students who have taken the listed courses or belong to any other categories listed in the exclusionary clause are not eligible to enroll in the course.

Repeatability clause (not displayed in example): Repeatable to a maximum of 10 cr hrs or 4 completions.

Indicates the maximum number of credit hours and/or the maximum number of completions a course may be repeated for credit (whichever limit is reached first).

Satisfactory/Unsatisfactory grading clause (not displayed in example): This course is graded S/U.

Indicates that a course is graded on an S/U basis rather than the standard letter grading system.

EM credit clause: This course is available for EM credit.

Indicates that a course is available for a type of exam credit.

GE clause: GE for lang course.

Indicates that the course may be used to meet one or many of the University's General Education requirements. Students should consult their specific college or adviser before scheduling courses to be applied to this requirement.

Admissions condition clause: FL Admis Cond course.

Indicates that the course may be used to fulfill an admission condition.

Cross-listing clause (not displayed in example): Cross-listed in English.

Indicates that the course is cross-listed with a course in another subject. The course shares a vast majority of its content with the cross-listed course, and instances of these courses are typically taught by the same instructor, in the same space, and at the same time during a semester. Courses usually share the same course number (in which case only the subject will be present in the clause), but where they do not, the number of the cross-listed course will be given.

University Classification and Course Numbering System

The system of numbering courses offered by the University is as follows:

1000-1099: Non-credit courses for orientation, remedial, or other non-college level experiences. These are courses taken in addition to a program's graduation requirements.

1100-1999: Basic courses providing undergraduate credit, but not to be counted on a major or field specialization in any department. Courses at this level are beginning, required, or elective courses that may be prerequisites to higher-level courses.

2000-2999: Intermediate courses providing undergraduate credit that may be counted toward a major or field of specialization.

3000-3999: Upper-level courses providing undergraduate credit that may be counted toward a major or field of specialization.

4000-4999: Advanced-level courses providing undergraduate credit that may be counted toward a major or field of specialization. Graduate students may enroll in and receive graduate credit for 4000-level courses outside their own graduate program.

5000-5999: Courses that are regularly offered for both graduate and undergraduate credit, and sometimes for foundational coursework or research credit at the professional level. These courses provide credit that may be counted toward an undergraduate major or field of specialization.

6000-6999: Foundational coursework and research providing graduate or professional credit.

7000-7999: Intermediate coursework and research providing graduate or professional credit.

8000-8999: Advanced coursework and research providing graduate or professional credit.

Editor: Emily Guthrie, Course Coordinator, University Registrar

Photo: Orton Hall Bell Tower with Moon
Courtesy of University Communications

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Accounting and Management Information Systems 1

Accounting and Management Information Systems

1200 Survey of Accounting	U 1
An examination of the role of accounting in organizations and society, accounting fundamentals, careers in accounting and the professional skills required for success.	
2000 Foundations of Accounting	U 3
A survey of accounting for non-business students; financial statements and analysis; accounting for assets, liabilities and owners' equity; and elements of managerial accounting. Prereq: Not open to students with credit for 2200 (211), 2300 (212), or 310.	
2200 Introduction to Accounting I	U 3
Preparation and use of accounting reports for business entities; focus on uses of accounting for external reporting, emphasizing accounting as a provider of financial information. Prereq: Econ 2001.01 (200), or equiv. Not open to students with credit for 2000 (310) or 211, or equiv. This course is available for EM credit.	
2200H Introduction to Accounting I	U 3
Structure and use of financial reports; role of accounting and auditing in markets and organizations. Prereq: Honors standing, and Soph standing. Not open to students with credit for 211H.	
2300 Introduction to Accounting II	U 3
The uses of accounting reports by managers to make business decisions and to control business operations; focus is on the internal use of accounting information. Prereq: 2200 (211) and Econ 2001.01 (200), or equiv. Not open to students with credit for 2000 (310) or 212, or equiv. This course is available for EM credit.	
2300H Introduction to Accounting II	U 3
Use of accounting information in management control, with ties to the economic theory of the firm. Emphasizes classroom discussion and student presentations. Prereq: Honors standing, and a grade of B or above in 2200H, and Soph standing. Not open to students with credit for 212H.	
3100H Quantitative Analysis in Accounting	U 3
Accounting information system applications of linear algebra are explored including a subspaces representation of double entry accounting structure, a probability assignment description of a decision maker's uncertain state of knowledge, and Bayesian belief updating description of information processing including projections for the case of linear or Gaussian conditional expectations. Prereq: Honors standing, a grade of B or better in 2200H, and Soph standing. Not open to students with credit for 4780H.	
3193 Individual Studies	U 1 - 6
Individual study projects in selected areas in Accounting and Information Systems. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.	
3194 Group Studies	U 1 - 6
Group study projects in selected areas in Accounting and Information Systems. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.	
3200 Financial Accounting I	U 3
Theory and application of accounting techniques to record and report financial information; asset and liability valuation; income measurement; first of two-course sequence. Prereq: 2300 (212), BusMgt 2320 (330), 2321 (331), BusMHR 2292 (BusAdm 499.01), and Jr standing; or permission of instructor. Not open to students with credit for 3200.02 or 521.	
3200H Financial Accounting I	U 3
Economic role of financial reporting in markets and how it is influenced by the regulatory environment. Prereq: Honors standing, and a grade of B or above in 2300H. Not open to students with credit for 519H.	
3201 Financial Accounting II	U 3
Theory and application of accounting techniques to record and report financial information; asset and liability valuation; income measurement; second of two-course sequence. Prereq: 3200, 3200.02, or BusMHR 2292 (BusAdm 499.01); or permission of instructor. Not open to students with credit for 3201.02 or 523.	
3201H Financial Accounting II	U 3
Study of theory and practice of financial accounting. Prereq: Honors standing, and a grade of B or above in 3200H. Not open to students with credit for 520H.	
3300 Cost Accounting	U 3
Managerial decision making in organizations with an emphasis on the use of financial data; theory and practice of management control. Prereq: 2300 (212), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01); or permission of instructor. Not open to students with credit for 525.	
3300H Cost Accounting	U 3
Theory and practice of management control with an emphasis on performance evaluation and reward. Prereq: Honors standing, and a grade of B or above in 3200H. Not open to students with credit for 525H.	

3400 Tax Accounting I	U 3
Fundamentals of the federal income tax, and how it influences taxpayer decisions. Emphasis is on the individuals and businesses organized as proprietorships, but rules generally applicable to all taxpayers are covered. Prereq: A grade of B or above in 2300H, or 3200 and BusMHR 2292.	
3400H Tax Accounting I	U 3
Fundamentals of the federal income tax, and how it influences taxpayer decisions. Emphasis is on individuals and businesses organized as proprietorships, but rules generally applicable to all taxpayers are covered. Prereq: Honors standing, and a grade of B or above in 2300H.	
3600 Introduction to Accounting Information Systems	U 3
The design of accounting information systems; focus is on business processes and internal control. Prereq: 3200 or 521, and BusMHR 2292 (BusAdm 499.01); or permission of instructor. Not open to students with credit for 631.	
3600H Introduction to Accounting Information Systems	U 3
The design and control of accounting information systems. Prereq: Honors standing, and a grade of B or above in 3200H. Not open to students with credit for 631H.	
3601 Introduction to Information Systems	U 1½
The role of information systems in capturing and distributing organizational knowledge and enhancing management decision making, process of redesigning organizations utilizing systems analysis and design, quality assurance, and change management techniques, technical foundation of information systems, including hardware, software, telecommunications, networks, and the information architecture. Prereq: Admission to BSBA program and Business Management specialization.	
3610 Foundations of Business Information Systems	U 3
Technical foundation in programming interactive business information systems. Prereq: 2300 (212), CSE 2123 (214), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 532.	
4193 Individual Studies	U 1 - 6
Individual study projects in selected areas in Accounting and Information Systems. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.	
4194 Group Studies	U 1 - 6
Group study projects in selected areas in Accounting and Information Systems. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.	
4200 Advanced Financial Accounting	U 3
Advanced topics in financial reporting; may include accounting for multi-corporate business entities, international operations, and government and not-for-profit organizations. Prereq: 3201 (523) or 3201.02, and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 624.	
4210 Financial Statement Analysis	U 3
Methods of fundamental analysis will be examined in detail; improve ability to use financial statements as part of an overall assessment of a firm's strategy and valuation. Prereq: 3201 (523) and BusMHR 2292 (BusAdm 499.01). Repeatable to a maximum of 12 cr hrs.	
4220 Governmental and Non-Profit Accounting	U 3
Focuses on financial reporting concepts and standards for non-profit and governmental units, evaluation of performance and the analysis and interpretation of financial statements of selected non-profit and governmental organizations. Prereq: 3201 (523) and BusMHR 2291 (BusAdm 499.01).	
4310 Topics in Management Accounting	U 3
Advanced topics in management control, strategic interactions within the firm. Students may not repeat topics. Prereq: 3300 (525) and BusMHR 2292 (BusAdm 499.01). Repeatable to a maximum of 6 cr hrs.	
4410 Tax Accounting II	U 3
Intensive study of the federal income tax treatment of business corporations and partnerships, with particular attention to tax planning by these businesses and their owners. Prereq: 3400 (626) and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 636.	
4500 Auditing Principles and Procedures	U 3
Basic concepts and standards of auditing; audit procedures and working papers, internal and external audit reports; professional responsibilities of auditors. Prereq: 3201 (523) and BusMHR 2292 (BusAdm 499.01), or permission of instructor. Not open to students with credit for 627.	
4510 Fraud Examination	U 3
The course will cover all major methods employees use to commit occupational fraud involving the misappropriation of assets. Prereq: 3201 and 3600, or permission of instructor.	

2 Accounting and Management Information Systems

4620 Analysis and Design of Management Information Systems	U	3	6201 Professional Research in Accounting	G	1½
Investigation and application, through real-world projects, of concepts and tools used in the analysis and design of management information systems.					
Prereq: CSE 3232 (616), BusMgt 2320 (330), 2321 (331), and BusMHR 2291 (BusAdm 499.01). Not open to students with credit for 651.			Research and communication skills in a professional accounting context; learn to use various accounting information resources; enhance communication and teamwork skills through collaborative exercises.		
Prereq: Enrollment in Master of Accounting Program. Not open to students with credit for 804.					
4650 Decision Support and Expert Systems	U	3	6202 Accounting Policy & Research	G	2½
Study of computer-based systems designed to support decision-making within the organization.					
Prereq: CSE 3232 (616), BusMgt 2320 (330), and 2321 (331). Not open to students with credit for 657.			Provides students the opportunity to develop their knowledge and appreciation of current debates surrounding the accounting profession. They will be exposed to academic research in accounting and the primary underlying methods involved.		
Prereq: Enrollment in Master of Accounting Program. Not open to students with credit for AcctMIS 844.					
4660 Electronic Commerce	U	3	7010 Ethical Challenges in Accounting and Business	G	1½
Examination of technical, managerial, and strategic issues that surround the emergence of electronic commerce on the internet.					
Prereq: 3610 (532) or CSE 3241 (670), and BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 658.			Provides students with an understanding of ethical challenges facing accounting and business professionals.		
Prereq: MBA 6211 (800), or enrollment in MAcc program.					
4670 Information Systems Planning & Management	U	3	7020 Uncertainty, Diversification, and Private Information	G	1½
Planning and management of the information system function in business organizations with emphasis on the problems involved.					
Prereq: CSE 2123 (214), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01); and Sr or Grad standing. Not open to students with credit for 659.			Focuses on role of uncertainty, risk aversion, and private information in decision making. The course utilizes the expected utility paradigm to study topics of portfolio diversification, CAPM, option pricing, incentive design, information cascades, and signaling theory.		
Prereq: Enrollment in Fisher College Grad Program.					
4780 Accounting Research and Practice	U	3	7193 Individual Studies	G	½ - 8
Researching accounting concepts and standards underlying corporate and non-corporate financial statements including consideration of typical accounting problems.					
Prereq: 3201 and BusMHR 2292. Not open to students with credit for 628.			Individual studies in Accounting and Information Systems.		
Prereq: Enrollment in the AcctMIS PhD program, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.					
4780H Accounting Research and Practice	U	3	7194 Group Studies	G	½ - 3
Researching accounting concepts and standards underlying corporate and non-corporate financial statements including consideration of typical accounting problems.					
Prereq: Permission of Honors Accounting Director. Not open to students with credit for 628H.			Group studies in Accounting and Information Systems; topics vary.		
Prereq: Permission of Honors Accounting Director. Not open to students with credit for 628H.					
4784 Tax Research Seminar	U	3	7200 Corporate Financial Reporting I	G	1½
Case studies requiring an in-depth examination of the tax aspects of situations frequently encountered by businesses and individuals.					
Prereq: A grade of B+ or above in 3400, or permission of instructor.			Examination of major aspects of corporate financial reporting.		
Prereq: 6050 or MBA 6211. Not open to students with credit for 6200 (824).					
4998 Undergraduate Research in Accounting and MIS	U	1 - 3	7220 Financial Statement Analysis	G	1½
Undergraduate Research in Accounting and MIS for non-honors students.					
Prereq: Permission of Program Director. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.			Examines the role of financial statement analysis in the evaluation of the firm's financial performance and the prediction of its future economic condition.		
Prereq: MBA 6211 (800), or enrollment in MAcc program. Not open to students with credit for 842.					
4998H Research	U	1 - 4	7221 Financial Statement Analysis II	G	1½
Special topics research in accounting and/or management information systems; research evaluated through papers, thesis, and/or special examinations.					
Prereq: A grade of B or above in 3201H, or permission of Honors Accounting Director. Not open to students with credit for 783H. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is progress graded.			Examines additional techniques to evaluate the firm's financial performance and the prediction of its future economic condition based on financial statements.		
Prereq: Permission of Honors Accounting Director. Not open to students with credit for 841.					
5000 Accounting and Cost Analysis	U G	3	7230 Accounting for Mergers and Acquisitions (and other Complex Transactions)	G	1½
An introduction to accounting and cost analysis for planning, decision-making, and control.					
Prereq: ISE 2000 (500) and 2040 (504), or enrollment in MBLE program. Not open to students with credit for 501.			Designed for students whose careers will require an expert understanding of advanced accounting and reporting concepts regarding complex financial transactions.		
Prereq: MBA 6211 (800), or enrollment in MAcc program. Not open to students with credit for 842.					
5200H Honors Advanced Financial Accounting	U G	3	7240 International Financial Reporting Standards	G	1½
Advanced topics in financial reporting including accounting for multi-corporate business entities, international operations, and other topics.					
Prereq: Honors standing, and a grade of B or above in 3201H; or permission of Honors Accounting Director. Not open to students with credit for 624H.			Students will learn the guiding principles behind international reporting standards. They will also learn areas of commonalities and substantial divergence between U.S. GAAP and IFRS.		
Prereq: 6200 or 7200. Not open to students with credit for 849.					
5500H Honors Auditing Principles and Procedures	U G	3	7250 Governmental and Non-Profit Accounting	G	1½
Basic concepts and standards of auditing; audit procedures and working papers, internal and external audit reports.					
Prereq: A grade of B or above in 3201H (520H), or permission of Honors Accounting Director. Not open to students with credit for 627H.			Focus is on financial reporting concepts and standards for non-profit and governmental units, evaluation of performance and the analysis and interpretation of financial statements of selected non-profit and governmental organizations.		
Prereq: MBA 6211 (800), or enrollment in MAcc program. Not open to students with credit for 852.					
6000 Management & Control	G	2½	7310 Managerial Accounting for Decision Making	G	1½
Fundamental role of uncertainty, risk and private information in accounting; emphasis on managerial decisions and control problems in organizations.					
Prereq: Enrollment in Master of Accounting Program. Not open to students with credit for 803.			Cost systems with emphasis on the appropriate application of system outputs to management decisions.		
Prereq: MBA 6211 (800), or enrollment in MAcc program. Not open to students with credit for 823.					
6001 Fundamentals of Accounting Data & Analytics	G	2½	7400 Tax Planning for Managerial Decision Making	G	1½
Provides an introduction to using large datasets to better understand corporate financial reporting and market behavior.					
Prereq: Enrollment in Master of Accounting Program.			Examination of the impact of taxes on several important business decisions; recognition of tax problems and planning opportunities.		
Prereq: MBA 6211 (800), or enrollment in Master of Accounting Program, or permission of instructor. Not open to students with credit for 826.					
6200 Financial Reporting	G	2½	7410 Tax Accounting II	G	1½
Examination of major aspects of corporate financial reporting by management under GAAP, including coverage of disclosures required for trade securities, tax aspects of mergers and acquisitions, auditing, and financial analysis.					
Prereq: Enrollment in Master of Accounting Program. Not open to students with credit for 7200.			Intensive study of the federal income tax treatment of business corporations and partnerships, with particular attention to tax planning by these businesses and their owners.		
Prereq: MBA 6211 (800), or enrollment in Master of Accounting Program, or permission of instructor. Not open to students with credit for 846.					

Accounting and Management Information Systems 3

7420	Tax Accounting III	G	1½	
	Intensive study of the federal income tax treatment of business entities and wealthy individuals, with particular attention to tax planning by these businesses and their owners. Prereq: MBA 6211 (800), or enrollment in Master of Accounting Program, or permission of instructor. Not open to students with credit for 866. Repeatable to a maximum of 12 cr hrs.			
7430	Taxes and Business Strategy	G	1½	
	Identify, understand and evaluate tax planning opportunities where a conceptual framework of how tax rules affect business decisions and those aggregated business decision impact the economy. Prereq: MBA 6211 (800), or enrollment in Masters of Accounting Program; or permission of instructor.			
7500	Auditing Principles and Procedures	G	1½	
	Basic theory and practice of auditing. Prereq: Enrollment in MAcc program.			
7510	Assurance Services and Information Quality	G	1½	
	Examination of the role of assurance services in enhancing the quality of information used for financial decision making, focusing on the perspective of the decision maker. Prereq: 4500 (627), 5500H (627H), or 7500, or equiv, and enrollment in the MAcc program. Not open to students with credit for 822.			
7520	Fraud Examination: Misappropriation of Assets	G	1½	
	Students will learn the major methods used by employees to commit fraud, factors that motivate individuals to commit fraud, misappropriation of assets, study of assets, and fraudulent disbursements, with emphasis on mechanisms to prevent and detect such frauds. Prereq: MBA 6211 (800), or enrollment in MAcc program. Not open to students with credit for 861.			
7530	Fraud Examination: Fraudulent Financial Reporting	G	1½	
	Students will learn to detect fraud by studying fraudulent financial reporting (intentional misstatements or omissions in financial statements), with emphasis on detection techniques. Prereq: MBA 6211 (800), or enrollment in Master of Accounting Program, or permission of instructor. Not open to students with credit for 862.			
7620	Management of Corporate Data Resources	G	1½	
	Examines modern database systems with an emphasis on planning, administrative, and implementation issues. Prereq: MBA 6211 (800), or enrollment in MAcc program. Not open to students with credit for 837.			
7640	Data Mining for Business Intelligence	G	1½	
	A theoretical and practical understanding of core data mining concepts and techniques and hands-on experience in applying these techniques to practical real-world business problems. Prereq: MBA 6211 (800), or enrollment in MAcc program.			
7650	Accounting Information Systems: Processes, Technology, and Analytics	G	3	
	This course covers the design and use of accounting information systems. The course emphasizes business processes and internal controls, with a focus on emerging technologies and the use of analytics in their evaluation. Prereq: MBA 6211 (800), or enrollment in MAcc program, or permission of instructor.			
7660	Accounting & Data Analytics Internship Experience	G	1½	
	An internship experience affords the student the opportunity to apply in the workplace the knowledge and skills s/he acquired in the classroom. In this course, students will examine the role of data analytics in the daily operations of an organization. Students will gain a better understanding of organizational culture, professional expectations, and his/her career options in the workplace. Prereq: Enrollment in MAcc program.			
7716	Accounting and Financial Analysis in Health Sciences	G	1½	
	Examines how managers use accounting and financial reporting information in decision making and performance evaluation. Course focuses on fundamental techniques for financial analysis such as time value money, risk and return, and capital budgeting. Prereq: BusMgt 7701, BusFin 7702, and BusMHR 7703; and enrollment in the Graduate Business Minor in Health Sciences.			
7784	Tax Research	G	1½	
	Case studies requiring an in-depth examination of the tax aspects of situations frequently encountered by businesses and individuals. Prereq: 7410, or enrollment in MAcc program. Not open to students with credit for 856.			
8780	Doctoral Seminar in Accounting & MIS	G	3	
	Required seminar in Accounting and MIS for first year doctoral students. Prereq: Enrollment in AcctMIS PhD program.			
8782	Doctoral Seminar in Financial Accounting	G	3	
	Required doctoral seminar in Financial Accounting. Prereq: Enrollment in AcctMIS PhD program.			
8783	Doctoral Seminar in Managerial Accounting	G	3	
	Required doctoral seminar in Managerial Accounting. Prereq: Enrollment in AcctMIS PhD program.			
8786	Doctoral Seminar in MIS Research	G	3	
	Required doctoral seminar in MIS Research. Prereq: Enrollment in AcctMIS PhD program.			
8890	Doctoral Seminar in Accounting Topics	G	3	
	Doctoral seminar in Selected Accounting Topics. Prereq: Enrollment in AcctMIS PhD program. Repeatable to a maximum of 12 cr hrs.			
8999	Dissertation Research	G	1 - 9	
	Doctoral dissertation research. Prereq: Enrollment in AcctMIS PhD program. Repeatable to a maximum of 24 cr hrs or 9 completions. This course is graded S/U.			
Advanced Computing Center for the Arts and Design				
3350	The History of Animation	U	3	
	An overview of the history and theory of animation including origin of animation forms, Hollywood Studio animation, a sample of World Animation and contemporary animation. Prereq: Not open to students with credit for ArtsCol 350.			
4101	Performance and Installation Technology	U	3	
	An overview of technologies useful for creating interactive installations and performance systems, using video projection, 3D graphics, environmental sensors and visual programming. Prereq: Permission of Instructor.			
5001	Motion Studies through Hand-Drawn Animation	U G	3	
	The principles of animation as demonstrated through hand-drawn animation. The work produced serves as a tool for comprehending the underlying process of any animation technique. Prereq: Not open to students with credit for ArtsCol 683.			
5002	3D Computer Animation: Form, Light and Motion I	U G	3	
	Overview of 3D computer animation components and stages of production. Prereq: Not open to students with credit for ArtsCol 749.			
5003	3D Computer Animation: Form, Light and Motion II	U G	3	
	Further exploration of 3D computer animation and stages of production. Prereq: 5002, or permission of instructor.			
5100	Concept Development for Time-Based Media	U G	3	
	Methods for developing concepts for time-based media through the cultivation of ideas and problem-solving strategies. Storyboarding, composition, editing and sound principles will be explored. Prereq: Not open to students with credit for ArtsCol 730.			
5102	Programming Concepts and Applications for Artists and Designers	U G	3	
	Fundamental programming concepts useful to artists and designers for creating algorithmic-based graphics and graphics tools. Prereq: Not open to students with credit for ArtsCol 756.			
5140	Interactive Arts Media: Web	U G	3	
	Introduction to the theory and practice of the design of interactive media for the web. Prereq: Not open to students with credit for ArtsCol 740.			
5141	Interactive Arts Media: UI/UX	U G	3	
	Practice in methods for designing and crafting user experiences (UX) and user interfaces (UI) for web applications.			
5150	Emerging Trends in Data Visualization	U G	3	
	This course enables students to explore new and emerging visualization approaches, topics and trends in visualization research and their applications. Students will research, write about, experience, propose, and prototype trends and possibilities for visualization.			
5191	ACCAD Internship	U G	½ - 3	
	A collaborative internship assignment conducted under the supervision of a faculty member. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			
5193	Independent Study	U G	½ - 3	
	Independent study. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.			
5194.01	Group Studies in Digital Animation and Interactive Media	U G	½ - 3	
	Group study on various topics related to digital animation and interactive media. Repeatable to a maximum of 15 cr hrs or 5 completions.			
5301	Devising Experiential Media Systems	U G	3	
	This course focuses on the creation of interactive and responsive spaces through the design of experiential media systems within the context of their underlying history, methodology, technology, and theory. Using a multidisciplinary and collaborative approach, students create hybrid digital-physical experiences which investigate the application of the technology used in experiential media design.			

4 Advanced Computing Center for the Arts and Design

5500	Integrated Tech Lab	U G	½ - 3				
	Technology exploration using ACCAD's specialized graphics laboratories.						
	Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.						
6002	Computer Game Art and Design I	G	3				
	Introduction to concepts for design and prototyping of games for entertainment, learning and social good.						
	Prereq: Sr or Grad standing, and permission of instructor. Not open to students with credit for ArtsCol 733.						
6003	Computer Game Art and Design II	G	3				
	Advanced topics for design and production of both fun and serious games including networked multi-player and mobile devices.						
	Prereq: Sr or Grad standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs.						
6650	The History of Animation	G	3				
	Overview of the history and theory of animation, including the origin of animation forms and Hollywood Studio animation, with a sample of World and contemporary animations.						
	Prereq: Grad standing. Not open to students with credit for ArtsCol 650.						
6651	Digital and Physical Lighting	G	4				
	Introduction to the principles and concepts of lighting as used in theatre and computer graphics. Working in collaborative teams, students develop and execute digital and analog lighting schemes.						
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 754 or Theatre 6651 (754). Cross-listed in Theatre.						
7001	Virtual Modeling	G	3				
	Design and modeling principles of 3D objects, environments and characters for animation, games and visualization.						
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 751.						
7002	Synthetic Cinema	G	3				
	Concepts and techniques for the combination of recorded and computer-generated media through processes of editing, compositing, motion tracking, virtual sets and other multimedia applications.						
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 752.						
7003	Expressive Animation	G	3				
	Movement concepts and techniques specific to computer animation including timing, spacing, inverse kinematics/forward kinematics, character motion and advanced animation approaches.						
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 750.						
7101	Performance and Installation Technology	G	3				
	An overview of technologies useful for creating interactive installations and performance systems, using video projection, 3D graphics, environmental sensors and visual programming.						
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 758.						
7102	Motion Capture Production and Experimentation	G	3				
	Traditional motion capture pipelines and exploration of possibilities for experimental approaches and applications of the technology.						
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 760.						
7104	Procedural Animation	G	3				
	The investigation of procedural methods for modeling and animating 3D computer graphics.						
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 763.						
7193	Independent Study	G	½ - 3				
	Independent Study.						
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.						
7504	Animation Production	G	1 - 6				
	An advanced studio course designed for students who are well versed in animation concepts and technical basics. The course challenges students to embark on collaborative animation projects that are currently in-house at ACCAD.						
	Prereq: 7001, 7002, 7003, 7004, or 7005, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.						
7893	Collaborative Interdisciplinary Research Studio Experience	G	1 - 3				
	Creative research by teams integrating information, data, techniques, tools, perspectives, concepts, &/or theories from two or more bodies of specialized knowledge to advance fundamental understanding or solve problems whose solutions are evolving.						
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.						
2200	Introduction to Aerospace Engineering I	U	4				
	An introduction to fundamental concepts leading to aircraft design, with an emphasis on aerodynamics and aircraft performance.						
	Prereq: Physics 1250 or 1260 (131); and Math 1152 (152), 1161 (161), 1172 (154), or 1181H, or a grade of C or above in Math 1544. Prereq or concur: Math 2173 (254), 2153 (153), or 2162 (263). Not open to students with credit for 200.						
2201	Introduction to Aerospace Engineering II	U	4				
	An introduction to fundamental concepts leading to aircraft and spacecraft design, with an emphasis on stability and control, propulsion, space launch/reentry, and orbital mechanics.						
	Prereq: 2200 (200). Not open to students with credit for 201.						
2405	Thermodynamics	U	3				
	Aerospace engineering thermodynamics: Introduction to the concepts of energy and entropy, the First and Second Law analysis of systems and control volumes, and the analysis of power and refrigeration cycles.						
	Prereq: 2200 (200), and AeroEng-BS student (No AAE pre-majors can enroll in this class). Not open to students with credit for 405.						
3520	Flight Vehicle Dynamics	U	3				
	Introduction to mathematical modeling of dynamics (equations of motion) for rigid bodies with specific application towards aircraft and spacecraft.						
	Prereq: 2201 (201) and MechEng 2030 (430), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 520.						
3521	Fundamentals of Flight Vehicle Control	U	3				
	Linear dynamic systems analysis using Transfer function (Laplace Transformation based) methods and State Space (matrix theory based) methods with emphasis on aircraft and spacecraft models.						
	Prereq: 3520 (520) and ECE 2300 (300 and 309), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 521.						
3542	Flight Vehicle Structures I	U	3				
	Introduction to aerospace structures: Basic structural components; fundamental elements of linear elastic boundary value problems; composites; bending, torsion and shear of thin-walled sections; laboratory demonstrations.						
	Prereq: 2201 (201) and MechEng 2030 (430) and 2040, or AeroEng 2201 (201) and MechEng 2010 and 2020 and 2030; and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 542.						
3543	Flight Vehicle Structures II	U	3				
	Energy Based Analysis: principles of virtual work and minimum potential energy; rayleigh-ritz & finite element methods; structural stability; thermo-elasticity; structural dynamics; laboratory demonstrations.						
	Prereq: 3542 (342), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 543.						
3560	Fundamentals of Aerodynamics	U	3				
	Fundamentals of viscous and inviscid flow encountered in aircraft aerodynamics.						
	Prereq: 2201 (201) and 2405 (405); and Math 2174, or 2568 (568) and 2415 (415); and enrollment as AeroEng-BS student. Not open to students with credit for 560 and 570, or AeroEng pre-majors.						
3570	One Dimensional Gas Dynamics	U	3				
	Continuation of viscous flows and boundary layers. One-dimensional gas dynamics including shocks, waves, supersonic, and transonic flow.						
	Prereq: 3560 (560 and 570), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 530.						
3580	Heat Transfer	U	3				
	Fundamentals of conduction, convection, and radiation.						
	Prereq: 3560 (560 and 570), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 570.						
3581	Numerical Methods in Aerospace Engineering	U	3				
	Fundamentals of mathematical and numerical modeling techniques and their applications in solving engineering problems.						
	Prereq: Math 2174, or 2568 (568) and 2415 (415); and enrollment as AeroEng-BS student. Not open to students with credit for 581, or AeroEng pre-majors.						
4193	Individual Studies in Aerospace Engineering	U	1 - 7				
	Individual studies project for undergraduates.						
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.						
4194	Group Studies in Aerospace Engineering	U	1 - 3				
	Group studies course for undergraduates.						
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.						
4510	Experimental Projects I	U	2				
	Conceive, plan and design an experiment with a group of students. Emphasis on planning and experiment preparation.						
	Prereq: 3543 (543) and 3570 (530 and 570), and Sr standing, and enrollment as AeroEng-BS student (No pre-majors can enroll in this class).						

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4511 Experimental Projects II	U 2
Execute and report on experiment formulated in Projects I. Emphasis on execution and reporting.	
Prereq: 4510, and enrollment as AeroEng-BS student (No pre-majors can enroll in this class).	
4515 Design of Atmospheric Flight Vehicles I	U 3
Conceptual and preliminary design, methodology, case studies, introduction of design software, group planning for subsequent design effort: design of atmospheric flight vehicles and components.	
Prereq: 3543 (543) and 3570 (530 and 570) and 3521 (521) and 3580 (580), and Sr standing, and enrollment as AeroEng-BS student (No AAE pre-majors can enroll in this class). Prereq or concur: 4550 (550). Not open to students with credit for 515.01 or 516.01.	
4516 Design of Atmospheric Flight Vehicles II	U 3
Continuation of 4515. Preliminary and detailed design of aerospace vehicle components: design of a vehicle for atmospheric flight.	
Prereq: 4515 (515 and 516), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 516.01 or 517.01.	
4517 Design of Space Vehicles and Systems I	U 3
Feasibility study of a space mission, elements of mission design and design methodologies of spacecraft subsystems, and preliminary sizing.	
Prereq: 3521 (521) and 3543 (543) and 3570 (530 and 570) and 3580 (580), and Sr standing, and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Prereq or concur: 4550 (550). Not open to students with credit for 515.02 or 516.02.	
4518 Design of Space Vehicles and Systems II	U 3
Continuation of 4517: Preliminary and detailed design of space vehicle components. Design of a space vehicle/system, and mission scenarios simulation via computer software.	
Prereq: 4517 (515 and 516), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 516.02 or 517.02.	
4550 Principles of Flight Vehicle Propulsion	U 3
Fundamentals of aerospace propulsion, engine cycles and analysis of various air-breathing and rocket engines.	
Prereq: 3570. Not open to students with credit for 550.	
4998 Aerospace Engineering Research	U 1 - 3
Aerospace Engineering research.	
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.	
4999 Aerospace Engineering Thesis Research	U 1 - 3
Aerospace Engineering research for thesis.	
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions.	
4999H Aerospace Engineering Honors Thesis Research	U 1 - 3
Aerospace Engineering honors research for thesis.	
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.	
5610 Helicopter Aerodynamics	U G 3
Basic treatment of helicopter aerodynamics, performance, and design.	
Prereq: 3570 (530 and 570).	
5612 Aircraft Performance and Flight Test Engineering	U G 3
Determination of the performance, stability, controllability, and handling qualities of general aviation aircraft through analysis and flight tests.	
Prereq: 3520 (520) and 3570 (530 and 570). Not open to students with credit for 612.	
5615 Introduction to Computational Aerodynamics	U G 3
Introduction to computational methods used in aerodynamics flow problems.	
Prereq: 3570 (530 and 570) and 3581 (581), and AeroEng major. Not open to students with credit for 615 or to AeroEng pre-majors.	
5616 Advanced Flight Vehicle Design	U G 3
The course introduces advanced flight vehicle design techniques applied during the conceptual design phase. The optimum design process and problem formulation is introduced, with an in-depth focus on multivariate graphical optimization techniques for aircraft. We will conduct optimal design based on first principles, and apply best practices to multidisciplinary flight vehicle design.	
Prereq or concur: 4550, and 4515 or 4517; or Grad standing in AeroEng; or permission of instructor.	
5620 Stability and Control of Flight Vehicles	U G 3
Analysis and design of aircraft, helicopter and missile flight control systems and the associated guidance and navigation systems.	
Prereq: 3521 (521). Not open to students with credit for 620 or 621.	
5621 Guidance, Navigation, and Control of Aerospace Vehicles	U G 3
Spacecraft (satellite) control systems analysis and design.	
Prereq: 3521 (521). Not open to students with credit for 620 or 621.	
5626 Orbital Mechanics for Engineers	U G 3
Introduction to orbital mechanics with orbit determination techniques, orbital maneuvers and lunar and interplanetary trajectories.	
Prereq: 3520 (520) and MechEng 2030 (430). Not open to students with credit for 645 or 745.	

5645 Introduction to Structural Dynamics and Aeroelasticity of Aerospace Vehicles	U G 4
Fundamental Concepts of Structural Dynamics, Unsteady Aerodynamics, and Aeroelasticity of Aerospace Vehicles.	
Prereq: 3543 (543), or equiv, and 3570 (530 and 570). Not open to students with credit for 645 or 745.	
5751 Advanced Air-Breathing Propulsion	U G 3
Fundamental and advanced concepts of gas turbine operation.	
Prereq: 4550 (550). Not open to students with credit for 751.	
5752 Advanced Space Propulsion	U G 3
Analysis of different propulsion techniques for access to space and inter-planetary flight: liquid, solid, hybrid, nuclear and electric. Emphasizes fundamentals based on physics and mathematics.	
Prereq: 4550 (550), or permission of instructor. Not open to students with credit for 752.	
5775 Hypersonic Flow	U G 3
Introduction to hypersonic inviscid and viscous flows, Newtonian theory, high-temperature effects and heat transfer.	
Prereq: 3570 (530 and 570) and 4550 (550). Not open to students with credit for 775.	
6193 Individual Studies in Aerospace Engineering	G 1 - 7
Individual studies project.	
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.	
6194 Group Studies in Aerospace Engineering	G 1 - 3
Group studies course.	
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.	
6771 Viscous Fluid Flow: Laminar and Transitional	G 3
Focus on laminar and transitional flows, beginning with classic analytical solutions to the Navier-Stokes equations and addressing issues of boundary layer stability and compressibility effects.	
Prereq: 3560 (560) and 3570 (530). Not open to students with credit for 771.	
6860 Experimental Fluid Mechanics	G 3
Introduction to experiment planning, data acquisition and analysis, and advanced measurement techniques commonly employed in fluid dynamics research.	
Prereq: Grad standing in Mechanical or Aerospace Engineering, or permission of instructor. Not open to students with credit for 860.	
7720 Advanced Stability and Control of Flight Vehicles	G 3
Advanced methods of stabilization and control of flight vehicles including Aircraft flight control systems and spacecraft control systems.	
Prereq: 3520 (520). Concur: 3521 (521), or equiv.	
7774 Aeroacoustics	G 3
Fundamental concepts of classical acoustics; physical mechanisms associated with aerodynamic noise generation; computational aeroacoustic methods.	
Prereq: 5615 (615) or equiv.	
7844 Optimal Design of Aerospace Structures	G 3
Optimization applied to aircraft and spacecraft structures.	
Prereq: Grad standing in Mechanical or Aerospace Engineering, or permission of instructor. Not open to students with credit for 844 or MechEng 7761 (761). Cross-listed in MechEng 7761.	
7862 Internal Flows in Turbomachinery	G 3
Detailed study of swirling, rotating, compressible, and unsteady internal flows found in turbomachinery.	
Prereq: 3560 (560) and 5751 (751), or permission of instructor. Not open to students with credit for 862.	
7875 Introduction to Turbulence	G 3
Introduction to turbulence in fluid mechanics with emphasis on understanding the physical mechanisms involved.	
Prereq: Grad standing in Mechanical or Aerospace Engineering, or permission of instructor. Not open to students with credit for 875. Cross-listed in MechEng 7513.	
8193 Individual Studies in Aerospace Engineering	G 1 - 7
Topics selected to give the advanced student opportunity to pursue special studies not otherwise offered.	
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.	
8194 Group Studies Aerospace Engineering	G 1 - 3
Topics selected to give advanced students an opportunity to pursue special studies as a group not otherwise offered.	
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.	
8802 Advanced Mathematical Methods in Engineering	G 3
Fourier series, complex differentiation and integration and transform and Green's function methods for solution of problems arising in heat transfer, vibrations, fluid mechanics; asymptotic analysis and singular perturbations.	
Prereq: Not open to students with credit for 802. Cross-listed in MechEng 8518.	

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8820	Robust Multivariable Control with Applications	G	3
Advanced concepts for robust control of uncertain dynamic systems with applications. Prereq: 5620 (620) or 5621 (621), or equiv.			
8851	Advanced Propulsion Problems	G	3
Detailed discussion of current problems in air breathing propulsion with major emphasis on technical papers available from the current archival literature. Prereq: 5751 (751) or MechEng 7527 (727), or permission of instructor. Not open to students with credit for 851 or MechEng 8527 (827). Cross-listed in MechEng 8527.			
8873	Advanced Computational Fluid Dynamics	G	3
Fundamentals of most types of numerical approaches employed to solve fluid dynamics and heat transfer problems. Prereq: 5615 (615) or MechEng 6507 (707), or equiv. Not open to students with credit for 873.			
8890	Aerospace Engineering Graduate Seminar	G	1
Lecture and discussion of current topics related to Aerospace Engineering presented by graduate students, staff and guest speakers. Course does not count toward course work required for MS or PhD degrees. Prereq: Grad standing in AeroEng, MechEng or NuclEn. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.			
8997	Advanced Topics in Aerospace Engineering	G	1 - 3
Advanced topics in Aerospace Engineering to provide instruction not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			
8998	Aerospace Engineering Research for MS Thesis	G	1 - 15
Aerospace engineering research for thesis. Repeatable. This course is graded S/U.			
8999	Aerospace Engineering Research for Dissertation	G	1 - 16
Aerospace Engineering research for PhD. Repeatable. This course is graded S/U.			

African American and African Studies

1101	Introduction to African American and African Studies	U	3
Introduction to the scholarly study of the Africana experience, focusing on patterns of resistance, adaptation, diversity, and transnational connections. Prereq: English 1110 (110). Not open to students with credit for 101. GE soc sci indivs and groups course.			
1121	African Civilizations to 1870	U	3
Exploration of the political, social, and economic history of precolonial African civilizations, using a variety of interdisciplinary approaches and materials. Prereq: English 1110 (110). Not open to students with credit for 121. GE historical study and diversity global studies course.			
1122	African Civilizations, 1870 to the Present	U	3
Exploration of the political, social, and economic history of colonial and independent African countries, using a variety of interdisciplinary approaches and materials. Prereq: English 1110 (110). Not open to students with credit for 122. GE historical study and diversity global studies course.			
2080	African American History to 1877	U	3
The study of the African American experience in America from arrival through the era of Reconstruction, focusing on slavery, resistance movements, and African American culture. Prereq or concur: English 1110.xx. Not open to students with credit for 323.01 or History 2080 (323.01). GE historical study course. Cross-listed in History.			
2081	African American History from 1877	U	3
The study of the African American experience in the United States from the era of Reconstruction through the present. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 323.02 or History 2081 (323.02). GE historical study course. Cross-listed in History.			
2085	Exploring Race and Ethnicity in Ohio: Black Ohio in the 19th Century	U	3
Explores the lives and experiences of African Americans in 19th century Ohio. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 2085. GE historical study and diversity soc div in the US course. Cross-listed in History.			
2101	Introduction to African Art and Archaeology	U	3
The Art and Archaeology of Africa with emphasis on the historic cultures of Rock Art (8,000 B.C.), Egypt (3,000 B.C.), Nok (900 B.C.), Igbo-Ukwu (695 A.D.), Ife (1200 A.D.), and Benin (1400-1900 A.D.). Prereq: Not open to students with credit for HistArt 2101 (216). GE VPA course and diversity global studies course. Cross-listed in HistArt.			
2194	Group Studies	U	1 - 3
Groups of students are given an opportunity to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.			
2201	Major Readings in African American and African Studies	U	3
An introduction to major authors and texts contributing to the discourses that have shaped and defined African American and African Studies from its inception to the present. Prereq: English 1110 (110). Not open to students with credit for 200 or 201. GE diversity soc div in the US course.			
2218	Black Urban Experience	U	3
Examination of contemporary black urban experience focused on the impact of persistent residential segregation, increasing class polarization, and the global force of hip hop culture. Prereq: Not open to students with credit for 218. GE soc sci indivs and groups course.			
2251	Introduction to African Literature	U	3
An assessment of the oral prose tradition and written prose of African literature; specific emphasis placed on student reading from primary sources. Prereq: Not open to students with credit for 251. GE lit and diversity global studies course.			
2253	Introduction to Caribbean Literature	U	3
An introduction to Caribbean literature with a focus on prose, poetry, and drama.			
2270	Introduction to Black Popular Culture	U	3
A critical analysis of the commodity production and consumption of black popular culture products, such as fashion, film, urban fiction, music, vernacular expression, television and advertising.			
2281	Introduction to African-American Literature	U	3
A study of representative literary works by African-American writers from 1760 to the present. Prereq: English 1110 (110), or equiv. Not open to students with credit for 281 or English 2281 (281). GE lit and diversity soc div in the US course. Cross-listed in English.			
2285	Afropop: Popular Music and Culture in Contemporary Africa	U	3
This course focuses on the rich variety, aesthetic beauty, and political significance of popular music in modern African cities. By closely attending to the genres, forms, styles, and social life of African popular music, students will encounter the dynamic soundscape of popular culture in Africa today. GE cultures and ideas course and diversity global studies course.			
2288	Bebop to Doowop to Hiphop: The Rhythm and Blues Tradition	U	3
Examines the aesthetic and historical evolution of rhythm and blues: black music tradition including bebop, rock and roll, and hiphop, redefining American popular culture post-WWII. Prereq: Not open to students with credit for 288 or Music 2288 (288). GE VPA and diversity soc div in the US course. Cross-listed in Music.			
2300	Issues in the Contemporary Black World	U	3
This interdisciplinary course examines contemporary issues affecting people of African descent on the continent and throughout its Diaspora. The course will call upon students to consider how race, ethnicity, national origin, gender, sexuality, and religion affect African-descended people in their daily lives, in cultural productions, and in relation to state power. GE diversity global studies course.			
2367.01	African-American Voices in U. S. Literature	U	3
Discussion, analysis, and writing about issues presented through the diverse voices of African American literature. Prereq: English 1110 (110). Not open to students with credit for 367.02. GE writing and comm: level 2 and lit and diversity soc div in the US course.			
2367.02	Debates in African American Studies	U	3
This writing-intensive course will assist students in honing their rhetorical argumentation skills through the examination of debates in African American Studies from the arrival of Africans in the Americas through the current moment. Prereq: English 1110.01 (101.01), and Soph standing. GE writing and comm course: level 2.			
2367.04	Black Women Writers: Text and Context	U	3
Writing and analysis of black women's literary representations of issues in United States social history. Prereq: English 1110 (110). Not open to students with credit for 367.04 or WGSSt 2367.04 (367.04). GE writing and comm: level 2 and lit and diversity soc div in the US course. Cross-listed in WGSSt.			
3081	Free Blacks in Antebellum America	U	3
Explores the development of free Black communities in the era before the Civil War, focusing on emancipation, fugitive slaves, resistance movements and suffrage. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3081. GE historical study and diversity soc div in the US course. Cross-listed in History.			
3083	Civil Rights and Black Power Movements	U	3
Examines the origins, evolution, and outcomes of the African American freedom struggle, focusing on the Civil Rights and Black Power movements. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for History 3083. GE historical study and diversity soc div in the US course. Cross-listed in History.			

African American and African Studies 7

3086 Black Women in Slavery and Freedom	U 3	
Traces the experiences and struggles of African American women from slavery through the Civil Rights/Black Power era.		
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3086. GE historical study and diversity soc div in the US course. Cross-listed in History.		
3089 Studies in African American History	U 3	
Selected topics in African American history from the origins of slavery to the present.		
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3089. Repeatable to a maximum of 12 cr hrs. GE historical study course. Cross-listed in History.		
3230 Black Women: Culture and Politics	U 3	
Examination of the social, cultural, political, economic, and historical forces, dynamics, and processes affecting women throughout the Africana world.		
Prereq: Not open to students with credit for 230. GE diversity soc div in the US course.		
3260 Global Black Cultural Movements	U 3	
This course focuses on hemispheric studies in the Americas, examining black cultural movements emerging after emancipation through the present. It considers the ways people of African descent in the Americas have used cultural productions—literature, poetry, film, music, visual art, and performance—to construct identities; agitate for equality; and understand aesthetics as political and beautiful.		
GE diversity global studies course.		
3304 History of Islam in Africa	U 3	
Africa from the emergence of Islam in the 600s to the Present. African contributions to Islam and the impact of Islam on African societies. Sometimes this course is offered in a distance-only format.		
Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 3304. GE historical study course. Cross-listed in History.		
3308 History of US-Africa Relations - 1900-Present	U 3	
History of the United States' relations with Africa since World War I. Sometimes this course is offered in a distance-only format.		
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3308. GE historical study and diversity global studies course. Cross-listed in History.		
3310 Global Perspectives on the African Diaspora	U 3	
Study of historical processes, key figures and ideas, and cultural expressions of the worldwide dispersion of people of African descent from different times and places.		
Prereq: Not open to students with credit for 310.		
3320 History of African Cinema	U 3	
Emergence and development of African cinema as a film genre and part of material culture. European colonial and ethnographic to modern African cinema. Sometimes this course is offered in distance-only format.		
Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for History 3310. GE historical study and diversity global studies course. Cross-listed in History 3310.		
3342H Music, Religion, and Ritual in Africa	U 3	
Survey of variety and interaction of musical and religious expressions in selected African societies, focusing on traditional contexts and contemporary Christian and Islamic examples.		
Prereq: Honors standing, and 1101 (101). Not open to students with credit for 342H. GE cultures and ideas and diversity global studies course.		
3361 Psychology of the Black Experience	U 3	
An analysis of personality theories commonly applied to black Americans and the black experience.		
Prereq: Not open to students with credit for 361.		
3376 Arts and Cultures of Africa and the Diaspora	U 3	
An overview of African and African diaspora cultures from a historical perspective. Cultural media will include art, literature, film, dance, and photography.		
Prereq: Not open to students with credit for 376 or HistArt 3102. GE VPA and diversity global studies course. Cross-listed in HistArt 3102.		
3440 Theorizing Race	U 3	
Introduction to issues of "race," consideration of the historical emergence and development of ideas of "race" and of racist practices, along with their contemporary formations.		
Prereq: Any 2367 course, or Philos 2400, or Jr or Sr standing, or permission of the instructor. Not open to students with credit for 595 or Philos 3440 (595). Cross-listed in Philos.		
3451 Themes in Francophone African and Caribbean Literature	U 3	
An interdisciplinary investigation of the representations of race, religion, identity, nation, and nationalism in Francophone African and Caribbean literature.		
Prereq: Not open to students with credit for 451.		
3956 Black Cultures and Classical Education	U 3	
Study the role of classics in African and the African Diaspora (US, Caribbean, Brazil). Major themes include: adaptations of classical literature, impact of classical education, classics as a tool of colonial oppression, classics as a tool of anti-colonial resistance, theories of race, classical and classicizing depictions of black bodies.		
Prereq: Not open to students with credit for Clas 3956. Cross-listed in Clas. GE lit course. GE diversity global studies course.		
4193 Individual Studies	U 1 - 6	
Exploration of relevant subject as individually designed by student and professor.		
Prereq: Permission of instructor, and permission of dept chair. Repeatable to a maximum of 6 cr hrs and 2 completions. This course is graded S/U.		
4250 African Politics	U 3	
An introductory survey of Sub-Saharan African politics from the pre-colonial period to the contemporary era. It will examine the common themes, issues, and trends that shape politics and development across forty-nine countries. Students will gain an understanding of how context shapes political behavior and how historical and political forces have influenced African politics.		
Prereq: Not open to students with credit for PolitSc 4597.02 (Au13, African Politics), 4250, or 4250H. GE soc sci orgs and polities and diversity global studies course. Cross-listed in PolitSc.		
4326 Topics in African Americans and Public Policy	U 3	
Examination of the impact of public policies on African American communities in the U.S. from the New Deal's Welfare State policies and programs of the 1930s to the present.		
Prereq: Not open to students with credit for 326.		
4342 Religion, Meaning, and Knowledge in Africa	U 3	
While the practice of religion in Africa is as diverse as its people, three major belief systems define the practice: African Traditional Religion, Islam, and Christianity. This course will examine classical and contemporary definitions of African Traditional Religion/s and the introduction and adaptations of Islam and Christianity in Africa.		
GE cultures and ideas and diversity global studies course.		
4378 History of Jazz	U 3	
An in-depth study of the periods, trends, major performers/composers, styles and influences of jazz from its beginnings to the present.		
Prereq: Not open to students with credit for 378 and 379.		
4460 Theories in Africana Literature	U 3	
Examination of various theoretical perspectives that underlie African and Caribbean literature in both its oral and written expressions.		
Prereq: Not open to students with credit for 460.		
4504 Black Politics	U 3	
Economic, political, and social constraints on the development of black political power; the efforts made by black people in recent times to organize for effective political action.		
Prereq: Not open to students with credit for 504 or PolitSc 4140 (504). Cross-listed in PolitSc 4140.		
4515 Ethnicity, Development and the State in Sub-Saharan Africa	U 3	
Takes a theoretical and comparative historical approach to analyzing problems of development and ethnic conflict in Sub-Saharan Africa.		
Prereq: Soph standing or above. Not open to students with credit for 515 or IntStd 4515 (515). Cross-listed in IntStd.		
4535 Topics in Black Masculinity	U 3	
A theoretical analysis of constructions, perceptions, and performances of black masculinity locally and globally.		
4551 Topics in Africana Literature	U 3	
Topics selected will relate to varying issues in the literatures of the Africa and the African Diaspora.		
Prereq: 2251, 2281, or English 2281. Not open to students with credit for 551. GE lit and diversity global studies course.		
4561 Topics in Africana Psychology	U 3	
The study of different dimensions of African and African American psychology; topics vary.		
Prereq: 3361, or permission of instructor. Not open to students with credit for 561. Repeatable to a maximum of 6 cr hrs.		
4565 Topics in African Diaspora Studies	U 3	
Selected topics which examine the origins, dimensions, and dynamics of the African Diaspora; topics vary each term.		
Prereq: 3310. Not open to students with credit for 565. Repeatable to a maximum of 9 cr hrs.		
4571 Black Visual Culture and Popular Media	U 3	
An examination of African Americans in visual culture and the theories of representation in popular media.		
Prereq: Not open to students with credit for 571. GE VPA and diversity soc div in the US course.		

8 African American and African Studies

4582 Special Topics in African-American Literature	U 3	5798.04 Study Abroad in Africa and the Diaspora	U G 3 - 9
Focuses on themes in African American Literature. Topic varies. Examples: Neo-slave narratives; the Harlem Renaissance; literature by African-American women.		A study tour of Africa and the Diaspora. Students will pay all travel and subsistence costs. Successful application to eligible study abroad program required. Repeatable to a maximum of 12 cr hrs or 2 completions.	
Prereq: English 2367.01 (367.01), or equiv, and 10 qtr cr hrs, or 6 sem cr hours of English at 2000-3000 level, or permission of instructor. Not open to students with 10 qtr cr hrs or 6 sem cr hrs for 4582 (582) or Eng 4582 (582). Repeatable to a maximum of 6 cr hrs. Cross-listed in English.			
4584H Literature and Modern Experience in Africa	U 3	6194 Graduate Group Studies	G 3
A comprehensive view of the dominant thematic directions of African literature in the European languages, and their formal realization in aesthetic and symbolic terms.		Group studies.	
Prereq: Honors standing, or permission of instructor.		Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.	
4921 Intersections: Approaches to Race, Gender, Class, and Sexuality	U 3	6757.01 Introduction to Graduate Studies in African American Literature, 1746 to 1900	G 3
Examines intersections of race, gender, class, and sexuality in various sites within American culture (e.g., legal system, civil rights discourse, social justice movements).		A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1746 to 1900s.	
Prereq: One course in CompStd, WGSS, or AfAmAST. Not open to students with credit for 545, CompStd 4921 (545), or WGSS 4921 (545). Cross-listed in CompStd and WGSS.		Prereq: Grad standing, or permission of instructor. Not open to students with credit for 757.01 or English 6757.01 (757.01). Cross-listed in English.	
4998 Senior Research Seminar	U 3	6757.02 Introduction to Graduate Studies in African American Literature, 1900 to Present	G 3
A seminar designed to provide experience in the creation of a research paper based on appropriate humanities and social science methodologies. Research topic to be announced.		A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1900 to the present.	
Prereq: 2101, 3310, and two 4000- or 5000-level courses; or permission of instructor.		Prereq: Grad standing, or permission of instructor. Not open to students with credit for 757.02 or English 6757.02 (757.02). Cross-listed in English.	
4999 Thesis Research	U 1 - 6	6999 Master's Thesis Research	G 1 - 12
A program of individual study for undergraduate students: may include individual conferences and reports; requires presentation and oral defense of a thesis.		Research for master's thesis.	
Prereq: Sr standing. This course is graded S/U.		Prereq: Permission of instructor. Not open to students with credit for 998. This course is graded S/U.	
4999H Honors Thesis Research	U 1 - 3	7080 Studies in African American History	G 1 - 6
A program of individual study for undergraduate honors students: may include individual conferences and reports; requires presentation and oral defense of an honors thesis.		Readings in black culture, society, politics, and race relations.	
Prereq: Honors standing, and 24 cr hrs taken in the Social and Behavioral Sciences and/or Humanities (including 12 hours in AfAmAST), and Sr standing. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.		Prereq: Grad standing. Not open to students with credit for 752. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.	
5189S Community Development: Field Research and Seminar	U G 3 - 6	7081 African Americans in Early America	G 1 - 6
A service-learning course that draws on the principles of experiential learning by immersing students in an organized service activity that meets identified community needs.		Explores African American life and culture during the colonial, early national, and antebellum eras.	
Prereq: 1101 or 2101, and permission of course coordinator. Repeatable to a maximum of 6 cr hrs or 2 completions.		Prereq: Grad standing. Not open to students with credit for 755.01. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.	
5193 Individual Studies	U G 1 - 3	7082 African Americans During the 19th Century	G 3
Individual reading or research projects by special agreement between instructor and student.		Explores African American life and culture from the early national period to the turn of the 20th century.	
Prereq: 12 cr hrs in AfAmAST, permission of instructor, and permission of department chair. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.		Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs. Cross-listed in History.	
5194 Group Studies	U G 1 - 3	7083 African Americans During the 20th Century	G 1 - 6
Group studies.		This intensive reading and discussion seminar explores African American life and culture from the Nadir through the start of the new millennium.	
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.		Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.	
5240 Race and Public Policy in the United States	U G 3	7084 African American Historiography	G 1 - 6
This course explores Race and Public Policy in the United States from Reconstruction to the present. In particular, the class is designed to look at the long list of "hot topics" in the current policy landscape, including policing, housing, wealth gap, immigration, voting, political representation, and others.		Explores the origins and evolution of African American history from the late-eighteenth century to the present.	
Prereq: Jr, Sr, or Grad standing; or permission of instructor. Not open to students with credit for PubAfrs 5240. Cross-listed in PubAfrs.		Prereq: Grad standing. Not open to students with credit for 755.04. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.	
5485.01 Southern Africa: Society and Culture	U G 3	7085 19th Century African American Political Thought	G 1 - 6
A comparative study of the social, political, cultural, and economic changes in Africa and the impact on contemporary black world. A study of the social and cultural developments in Southern Africa, and the environment.		Chronicles the political, spiritual, and social strivings of the black community during the 19th century, focusing on culture, resistance, and nationalism.	
Prereq: English 1110 (110). Not open to students with credit for 485.01 or 705.01. GE cultures and ideas and diversity global studies course.		Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.	
5485.02 West Africa: Society and Culture	U G 3	7086 The Civil Rights and Black Power Movements	G 1 - 6
A comparative study of the social, political, cultural, and economic changes in Africa and the impact on contemporary black world. A chronological and interdisciplinary exploration into the cultures and societies of West Africa.		Examines the origins, evolution, and outcomes of the African American freedom struggle, focusing on the Civil Rights and Black Power movements.	
Prereq: English 1110. Not open to students with credit for 485.03 or 705.01.		Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.	
5485.03 Afro-Brazilian Society and Culture	U G 3	7087 Black Women in the United States	G 1 - 6
Preparation of students to study abroad in the South American country of Brazil, particularly in Salvador, the Bahia region, which is home to the world's largest Afro-Brazilian population. The course will enable students to survey, understand, appreciate and participate in the richness and dynamic nature of Brazil's history, culture, politics, economy and people.		A study of historical and related scholarship on the history and experience of black women in the United States.	
Prereq: English 1110. GE diversity global studies course.		Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.	
5798.03 Study Tour: Brazil	U G 3	7303 Comparative History of the African Diaspora and Post-Emancipation, Colonial, & Post-Colonial Reality	G 3
Consists of a two-week educational Study Trip that combines formal lectures by local scholars with visits to local cultural and historical institutions as well as travel within Brazil, the host Latin American country.		Examination of social, political, and cultural developments and realities in the black world, from the period of the emancipation to the beginning of the 21st century.	
Prereq: 5485.03. GE education abroad course.		Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs. Cross-listed in History.	
		7420 African Historiography and Methodology	G 3
		The study of sources, research methods, interpretations, and research trends in the field of African history.	
		Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs. Cross-listed in History.	

African American and African Studies 9

7430	Studies in African History	G	3
The study of the historical literature of Africa and various aspects of African history; topics vary.			
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs.			
7507	Black Lives Matter: Law and Culture	G	3
This course examines law as a site that has defined both blackness and humanness in relationship to African Americans. It also explores black culture to understand various responses to injustice.			
Prereq: Not open to students with credit for Law 7507. Cross-listed in Law.			
7580	Enslavement, Emancipation, Colonial and Post-Colonial Realities	G	3
History and evolution of the African Diaspora worldwide, from ancient times to the present. Examination of social, political and cultural developments and realities in the Black world.			
Prereq: Grad standing, or permission of instructor.			
7730	Black Political Movements and Organizations	G	3
Analysis of Black political movements and organizations from slavery to contemporary times.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 730.			
7750	Language and Society in Africa	G	3
A survey of the interplay between language and society in the African context.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 750.			
7751	Introduction to Graduate Studies and African Literature	G	3
A broad survey of the development of African literature, its variations, genres, and themes.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 751.			
7753	Graduate Survey in African-American and African Studies	G	3
Critical analysis of the development of African-American and African Studies as a discipline and the theoretical approaches to its subject matter.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 753.			
7754	Methodological Perspectives in African-American and African Studies	G	3
A critical and trans-disciplinary examination of methodological approaches employed in the study of the Black experience in its convergent and divergent manifestations across the world.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 754.			
7756	Theorizing Race and Ethnicity	G	3
Examination of the ideas and theories of race and its intersection with ethnicity.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 756.			
7759	Topics in African Diaspora Studies	G	3
A multi-disciplinary and critical examination of the origins dimensions and legacies of the African Diaspora. Topics will vary each term.			
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.			
7760	African Pop Culture	G	3
Examination and critique of various theories and genres of popular culture as they relate to the African situation.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 760.			
7765	African Social Movements in the Age of Globalization	G	3
Development of social movement politics in Africa in the context of globalization and structural adjustment.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 765.			
7792	Interdepartmental Studies in the Humanities	G	3
Two or more departments present colloquia on subjects of mutual interest; topics to be announced.			
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs.			
7810	Topics in Black Feminist Theory	G	3
Theoretical analysis of the politics and perceptions of womanhood in the black community.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 810.			
7851	Seminar in Critical Approaches to Black Literatures	G	3
A close reading of major literary critical discourses that have shaped and determined the course of Black literary production in Africa, North America, and the Caribbean.			
Prereq: Introductory course in African American Literature, and Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in English 7851.01 and English 7851.02.			
7862	Mental Health in the Africana Community	G	3
Theoretical and practical approaches to the problems of mental health in the black community.			
Prereq: 7756. Not open to students with credit for 862.			
8080	Seminar in African American History	G	1 - 6
Graduate research seminar in African American History. Topics will vary.			
Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.			

8350	Transnational History of the African World	G	3
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Starts from the premise that the African world no longer includes only the continent of Africa, but also the spaces and cultures populated by peoples of African descent.

Prereq: Grad standing.

8840	Seminar in Black Masculinity Studies	G	3
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Engages different topics that address issues and concerns that pertain to black men and boys.

Prereq: Grad standing.

8850	Consumer Culture, Race and Modernity	G	3
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Acquaints students with critical theoretical perspectives on the social and cultural history of consumer culture in the West, linking it to the rise of capitalism, industrialization, imperial and neo-liberal globalization.

Prereq: Grad standing.

8865	Race, Gender, and Class in the Diaspora	G	3
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An examination of the core influences of race, gender, and class on people of African descent. Prereq: 9 cr hrs taken in Social/Behavioral Sciences, or permission of the instructor. Not open to students with credit for 865.

8899	Interdepartmental Seminar	G	3
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Two or more departments present seminars on topics of mutual interest; topics to be announced.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

8998	Research in African-American and African Studies: Dissertation	G	1 - 12
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Research for doctoral dissertation.

Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

8999	Dissertation Research and Writing	G	1 - 3
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Research and Writing in preparation for PhD exams.

Repeatable to a maximum of 9 cr hrs or 4 completions. This course is graded S/U.

Agricultural and Extension Education

7000	Graduate Orientation Seminar	G	1
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Examination of scholarship in the discipline of agricultural and extension education. Discussion of trends and issues that are important in the disciplines and how trends may influence future career roles.

Prereq: Not open to student with credit for 795.07. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

7230	Strategic and Program Planning for Visionary Change	G	3
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Examination of strategic and program planning models in educational and community settings. Learn about the strategic and program planning process. Understand change and innovation processes in organizational settings.

Prereq: Not open to students with credit for 723 and 823.

7300	Advanced Methods of Teaching	G	3
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Designed as advanced preparation for instruction in formal learning environments, this course focuses on skills, strategies and issues common to educators in general. It will introduce learners to literature and research relevant to practicing educators. Delivered online in an asynchronous format via Carmen, will allow for information transfer and consumption.

7320	Adult Learning and Professional Development	G	3
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This course is designed to provide an introduction to adult learning and professional development to ensure effective programs and education with adult audiences.

Prereq: Not open to students with credit for 622.

7420	Emerging Trends and Issues in Agricultural and Extension Education	G	2
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Participants in this course will gain an understanding of global issues and trends facing contemporary agricultural and extension organizations, communication and leadership. Repeatable to a maximum of 4 cr hrs.

7520	Human Development and Program Planning	G	2
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Course provide an introductory understanding of human development and why it is essential for planning programs to serve youth and adults in non-formal and formal education.

7700	Documenting Change through Evaluation and Accountability	G	3
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The key principles and practices used in evaluating the change resulting from educational programs and activities, and how that relates to programming accountability will be covered. Prereq: Not open to students with credit for 770.

7889	Workshop in Agricultural and Extension Education	G	1 - 3
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Intensive study of selected programs, practices, and skills with an emphasis on applications in agricultural and extension education.

Prereq: Teaching or extension experience. Repeatable to a maximum of 18 cr hrs or 18 completions.

8000	Leading Through Historical Perspectives	G	3
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Examines the mission, purpose, and historical foundations of agricultural and extension education in America. Focuses on the contemporary issues facing agriculture education, extension education, and ag communications.

Prereq: Not open to students with credit for 700.

10 Agricultural and Extension Education

8100 Applied Communication Theory and Practice	G	3	2194 Group Studies	U	1 - 3
A study of the theories and guiding concepts related to agricultural communication in applied and theoretical settings.			Group studies for students in specialized programs.		
Prereq: Grad standing. Not open to students with credit for 840.			Prereq: Permission of instructor. This course is graded S/U.		
8193 Individual Studies	G	1 - 5	2367 Agricultural Issues in Contemporary Society	U	3
Planning, conducting, and reporting a special study appropriate to the needs of the individual student.			This course helps students develop a critical understanding of agricultural, environmental and related issues facing the United States and the world while improving their writing skills. This is a second writing course.		
Repeatable to a maximum of 5 cr hrs or 5 completions. This course is progress graded (S/U).			Prereq: First writing course. Not open to students with credit for 367. GE writing and comm: level 2 and diversity soc div in the US course.		
8310 Theory of Learning and Cognition	G	3	3130 Oral Expression in Agriculture	U	3
AEE 8310 provides a framework for the theoretical development of cognitive skills, psychomotor principles, and teaching methods relevant to teaching agricultural content.			An introductory public speaking course that will analyze the communication process and prepare students enrolled to write and deliver speeches for various occasions and purposes.		
Prereq: Ph.D. student in AEE, or permission of instructor.			Prereq: Not open to students with credit for 390.		
8420 Leadership and Administration in Agricultural and Extension Education	G	3	3488 Professional Development In Agricultural Communication	U	1 - 3
Focuses upon theories, concepts, and principles for leadership, administration, and management in communication, education, extension, and community settings.			Developing Twenty-first Century skills through hands-on, contextual, and authentic, out-of-class experiences. Students, working individually with the instructor, will design and engage in developmental skill activities. An example is the Earl McMunn.		
Prereq: Not open to students with credit for 795.03 or 842.			Repeatable to a maximum of 9 cr hrs. This course is graded S/U.		
8850 Research Methods	G	2	3797 Agricultural Communication Study Abroad	U	3
Principles and techniques of research appropriate for planning, conducting, and reporting research in applied social and life sciences.			Engages students in concentrated study of food, agricultural, and environmental issues in a foreign country, mass media practices in communicating and educating the public about these issues, and the impact of those practices.		
Prereq: Not open to students with credit for 885.					
8851 Research Proposal I	G	1	4130 Publication Design and Production	U	3
Companion course with 8850 in which students prepare a draft of chapter one for their theses/dissertation research. Students will be supervised by their graduate advisor in collaboration with the 8850 instructor.			Introduces students to basic practices and techniques used in designing and producing professional-quality publications for agricultural and general audiences. Agricultural communicators will find application for these skills in a variety of ways.		
Concur: 8850. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			Prereq: Not open to students with credit for 300.		
8860 Research Design	G	2	4191 Agricultural Communication Internship	U	1 - 5
Development of effective design for research problems in applied social and life sciences, including theory, models, and sampling.			The Agricultural Communication Internship is designed to give you first-hand experience working in a professional communication setting. Regardless of the field, students should be actively involved in the production of information and communication.		
Prereq: Not open to students with credit for 886.			Prereq: Enrollment in AgrComm major, and permission of instructor. Repeatable to a maximum of 5 cr hrs or 3 completions. This course is progress graded (S/U).		
8861 Research Proposal II	G	1	4194 Group Studies in Agricultural Communication	U	1 - 3
Companion course with 8860 in which students prepare a draft of chapter three for their theses/dissertation research. Students will be supervised by their graduate advisor in collaboration with the 8860 instructor.			Selected topics in Agricultural Communication.		
Concur: 8860. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			Repeatable to a maximum of 10 cr hrs or 5 completions.		
8870 Analysis and Interpretation of Data	G	2	4998 Undergraduate Research	U	1 - 10
Analysis and interpretation of descriptive and inferential statistics for research in applied social and life sciences.			Conducting and reporting an undergraduate research project.		
Prereq: Not open to students with credit for 887.			Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.		
8875 Data Analysis and Interpretation Laboratory	G	1	4999 Research with Distinction	U	1 - 3
Learn SPSS statistical data analysis computer program for application and interpretation of descriptive and inferential statistics in research.			Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the University's Denman Undergraduate Research Forum.		
Concur: 8870. Not open to students with credit for 795.05. This course is graded S/U.			Prereq: CPHR 3.00 or above, and GPA 3.00 or above in major, and permission of project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.		
8880 Instrumentation and Procedures for Data Collection	G	2	4999H Honors Research with Distinction	U	1 - 3
Selection, development, and analysis of various types of instruments and procedures for collecting research data.			Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the University's Denman Undergraduate Research Forum.		
Prereq: 8850 (885). Not open to students with credit for 888.			Prereq: Honors standing, and FAES 4590.01H (590.01H), and CPHR 3.4 or above, and GPA 3.4 or above in major, and permission of honors project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.		
8890 Applied Regression Analysis	G	2	5130 Campaign Design and Management in Agricultural Organization	U G	3
Advanced multivariate data regression techniques used in the applied social and life sciences.			The goal of this class is to help you learn as well as to develop your skill set as a communication strategist. The area of Public Relations in the private agriculture sector continues to become more and more important in business today.		
Prereq: Grad level research methods course. Not open to students with credit for 995.			Prereq: Not open to students with credit for 510.		
8895 Applied Data Reduction Techniques	G	2	5135 Agricultural Feature Writing	U G	5
Advanced multivariate data reduction techniques used in the applied social and life sciences.			This is a laboratory course where students will apply skills learned from earlier journalism courses to produce the AgriNaturalist, a student publication of the College of Food, Agricultural, and Environmental Sciences.		
Prereq: Grad level research methods course. Not open to students with credit for 995.			Prereq: 4130 (300), Comm 2221 (421 and 422), and 4202 (602). Not open to students with credit for 500. Repeatable to a maximum of 10 cr hrs.		
8998 Graduate Research	G	1 - 3	5150 Communication Strategies for Change and Development	U G	3
Graduate student research that is not part of a thesis or dissertation.			Examines communication competencies needed by development and social change practitioners.		
Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			Prereq: Jr or Sr standing, or permission of instructor. Not open to students with credit for 650.		
8999 Research	G	1 - 12			
Research for thesis or dissertation purposes only.					
Repeatable to a maximum of 12 cr hrs or 12 completions. This course is progress graded (S/U).					

Agricultural Communication

2130 Visual Media in Agricultural and Natural Resources	U	2
Prepares students to be proficient in photography, photo editing, and image composition techniques used in the agricultural and natural resource communications fields.		
This course is graded S/U.		
2193 Individual Studies	U	1 - 3
Planning, conducting, and reporting a special study appropriate to the needs of the student.		
Prereq: GPA 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		

Agricultural Communication 11

5170 International Development Theory and Practice U G 3

We will explore varying theoretical perspectives, trace the history and the ideological underpinnings embedded in it; analyze the actors and their internationalities; and review contemporary views on the subject.

Prereq: Not open to students with credit for AEE 790.

5190 Extension Education in Developing Countries U G 3

What is extension and what are the problems, prospects and challenges facing extension in the developing world? The course provides an opportunity for students to explore issues related to extension in developing countries.

Prereq: Not open to students with credit for AEE 790.

5193 Individual Studies U G 1 - 3

Students plan, conduct, and report on a special problem in agricultural communication not included in regular course work.

Prereq: CPHR 2.50 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5194 Group Studies U G 1 - 3

Selected topics in agricultural communication.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

5197 Agricultural and Environmental Communication Study Abroad U G 1 - 2

Engages students in concentrated study of media practices in a foreign country, its agricultural, environmental and food systems issues and the role of the media in addressing those issues.

5530 Advanced Agricultural Communication Technology U G 3

Course is designed to further introduce students to practices and techniques used in computer-based electronic production when preparing informational and educational messages for public and student audiences in agriculture and natural resources.

Prereq: Not open to students with credit for 350 or AEE 532.

5797 Study Abroad in Agricultural Communication U G 3

Engages undergraduate and graduate students in an international learning experience to address their academic and professional interests in agricultural communication. Course objectives and topics will vary based on the country explored and the focus of the experience.

Agricultural Systems Management

1100 Exploring Agricultural Systems Management U ½

Basic understanding of the global trends within agricultural systems management, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.

2193 Individual Studies U 1 - 3

Introductory individual study of problems and topics not included in regular Agricultural Systems Management courses.

Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

2194 Group Studies U 1 - 5

Introductory group study of selected topics in Agricultural Systems Management

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

2240 Basic Metal Fabrication for Agriculture U 3

A study of the principles and practices in basic metal fabrication using the current metallurgical and welding processes required in the agricultural industry.

Prereq: AgSysMt 1100 and FAES 1100 (100), or one of the other university survey courses. Not open to students with credit for AgSysMgt 240 or ConSysM 2240 (ConSysMt 240). This course is available for EM credit.

2241 Building Materials and Construction in Agriculture U 3

Principles and techniques used in the fabrication of wood, concrete, and masonry materials used in agri-business and agricultural applications.

Prereq: Not open to students with credit for AgSysMgt 241 or ConSysM 2241 (ConSysMt 241).

2305 Professional Development I U 2

Business communications and professional development in agricultural systems management including job search strategies, informative and persuasive writing, academic planning, collaboration, project documentation and reporting, and presentations.

Prereq: English 1110. Not open to students with credit for ConSysM 2305. This course is available for EM credit.

2310 Electrical Systems for Agricultural and Residential Applications U 2

Principles, design and installation of systems and components essential for generation, distribution and control of electricity for power, heat, motors and illumination in residences and agricultural structures.

Prereq: Math 1148 (148), and Physics 1103 (103), 1200 (111), or 1250 (131). Not open to students with credit for AgSysMgt 310 or ConSysM 2310 (ConSysMt 310). This course is available for EM credit.

2370 Environmental Hydrology U 2

Principles of hydrology applied to agricultural and forest watersheds, including applications in drainage, erosion, irrigation, water supply and water quality.

Prereq: Not open to students with credit for AgSysMgt 370. This course is available for EM credit.

2371 Land Surveying for Agricultural and Environmental Systems U 2

Principles of land surveying applied to soil and water management on agricultural, forested, and environmentally sensitive areas. Traditional surveying methods, total stations and GPS will be covered.

Prereq: Math 1148 (148), or permission of instructor. Concur: Physics 1103 (103), 1200 (111), or 1250 (131). Not open to students with credit for AgSysMgt 371. This course is available for EM credit.

3191 Internship in Agricultural Systems Management U 2

A pre-approved internship of planned and supervised work experiences which provide professional and technical growth in the agricultural industry.

Prereq: AgSysMt 2305 (AgSysMgt 305), and enrollment in AgSysMt major, and 8 cr hrs in AgSysMgt, and permission of internship coordinator. Not open to students with credit for AgSysMgt 489.

3232 Engines and Power Transmission U 3

Principles of engine theory, operation, maintenance, and repair. In addition, alternative fuels, engine design and basic power transmission will be explored.

Prereq: Math 1130 (130) or 1148 (148), and Physics 1103 (103), 1200 (111), or 1250 (131); or enrollment in Sustainable Plant Systems major or Landscape Construction minor. Not open to students with credit for AgSysMgt 232. This course is available for EM credit.

3320 Facilities for Agricultural and Greenhouse Production U 3

Building and equipment design for livestock, crop and greenhouse production; selection and specification of construction materials and ventilation systems.

Prereq: Math 1148 (148), and Physics 1103 (103), 1200 (111), or 1250 (131). Not open to students with credit for AgSysMgt 320.

3360 Agricultural Machinery Management U 3

Basic principles of operation, selection and management of agricultural machinery, including power requirements, performance evaluation, calibration, adjustment, costs of operation and optimum size.

Prereq: Math 1148 (148), or permission of instructor. Not open to students with credit for AgSysMgt 360.

3550 Animal and Rural Waste Management U 2

Management of animal wastes, wastewater and solid waste generated through agricultural practices and rural living to utilize nutrients, recover energy, reuse water, protect public health and abate environmental pollution.

Prereq: Not open to students with credit for AgSysMgt 550.

4193 Individual Studies U 1 - 3

Advanced individual study of problems and topics not included in regular Agricultural Systems Management courses.

Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

4194 Group Studies U 1 - 5

Advanced group studies of selected topics in Agricultural Systems Management.

Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

4300 Engineering Applications in Agriculture U 4

Engineering and technology applications essential to the operation, selection and management of the processes, machinery, structures, soil and water, and materials handling systems in agriculture.

Prereq: Math 1130 (130) or 1148 (148). Not open to students with credit for 301 or students enrolled in AgSysMt or Eng.

4560 Fluid Power and Electronics in Agricultural Machinery U 3

Principles of operation, maintenance, and selection of basic fluid power, electrohydraulic, electronic and computer controlled systems found on agricultural and construction machinery.

Prereq: AgSysMt 2310 (AgSysMgt 310) and 3360 (360). Not open to students with credit for AgSysMgt 560.

4575 Applied Agricultural Water Management U 2

Planning and managing the drainage, irrigation, erosion and sediment control, water harvesting and storage systems and agricultural constructed wetlands for the agricultural landscape.

Prereq: AgSysMt 2370 (AgSysMgt 370) and 2371 (371), or ConSysM 2440 (ConSysMt 440); and ENR 3000 (300.01); or permission of instructor. Not open to students with credit for AgSysMgt 575.

4580 Precision Agriculture U 2

Introduction to the principles and technologies of precision agriculture including: Global Positioning System (GPS), guidance systems, plant and soil sensors, soil sampling, yield mapping and related technologies.

Prereq: Not open to students with credit for AgSysMgt 580.

12 Agricultural Systems Management

4605 Professional Development II U 1

Developing and pursuing career plans; strategies and programs for employment in the agricultural industry, professional development, personal growth, and relationships. Prereq: 2305 (AgSysMgt 305), 3360 (AgSysMgt 360), and AgrComm 3130 (390) or Comm 2110 (321), and any second writing course numbered 2367 (367). Not open to students with credit for AgSysMgt 605.

4900 Capstone in Agricultural Systems Management I U 2

The course is designed to prepare students on how to work with customers/sponsors/industry mentors to identify the need (problem), begin the steps to develop plausible solutions, develop a scope of work (action plan), and to assemble their findings into a proposal (Preparation for project implementation that will take place the following spring in AgSysMt 4910). Prereq: Jr or Sr standing, and enrollment in AgSysMt major; or permission of instructor (scheduled to graduate in the next three semesters).

4910 Capstone II - Project Implementation U 2

Building upon prior knowledge and experiences gained through the major, students will develop plausible solution(s) to a real-world problem that relates directly to student's interests and general area of study. Prereq: 4900.

4998 Undergraduate Research U 1 - 3

Supervised undergraduate research on various topics.

Prereq: CPHR 2.5 or above and permission of the instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4999 Research with Distinction U 1 - 3

Conducting and reporting research with Distinction. Students are expected to participate in the CFAES Undergraduate Research and the Denman University Undergraduate Research Forums.

Prereq: CPHR 3.0 or above, and major GPA 3.0 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

4999H Honors Research with Distinction U 1 - 3

Conducting and reporting Honors research with Distinction. Students are expected to participate in the CFAES Undergraduate Research and the Denman University Undergraduate Research Forums.

Prereq: Honors standing, and FAES 4590.01H (590H), and GPA 3.4 or above, and major GPA 3.4 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5533 Laboratory Pedagogy and Management U G 4

Develops the pedagogical and management skills required to efficiently utilize educational laboratory facilities at the secondary school level for teaching agricultural mechanics and science.

Prereq or concur: ASE 5230 (AEE 530), and enrollment in AgriScience Education major. Not open to students with credit for AgSysMgt 533.

5600 Agricultural Safety and Health U G 3

Develops the knowledge, awareness and attitude necessary to becoming an effective safety manager in a non-traditional occupational environment. Includes hazard identification and mitigation; safety education, engineering, and enforcement strategies.

Prereq: Not open to students with credit for AgSysMgt 600.

5786 Environmental Issues in East Asia U G 3

STEM students will study emerging, interdisciplinary environmental issues in China, Korea, Japan, Taiwan and Hong Kong, such as air and water pollution, waste management, habitat destruction, exotic species, and energy.

Prereq: Enrollment in a Science, Technology, Engineering or Math (STEM) discipline, and Jr, Sr, or Grad Standing.

7786 Introduction to Graduate - Level East Asian Studies G 1

This interdisciplinary course is a combination of student explorations of scholarly work in East Asia and subjects in these cultures. Readings and presentations on the impact of STEM in agriculture and environment on the cultures in East Asia. Students participate in group discussions of student research and professionalism.

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

Agricultural, Environmental, and Dev Economics

1100 Exploring Agribusiness and Applied Economics U ½

Basic understanding of the global trends within agribusiness and applied economics, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.

1200 Exploring Sustainability: SUSTAINS LC Seminar U 1

Designed for SUSTAINS Learning Community students to explore their interests within sustainability, learn about opportunities to be involved in campus and local community sustainability efforts, and connect with campus partners and faculty working and researching in the field. Students must be a part of the SUSTAINS Learning Community in order to take this seminar.

Prereq: Must be in the SUSTAINS Learning Community. This course is graded S/U. Cross-listed in ENR.

2001 Principles of Food and Resource Economics U 3

Microeconomic principles applied to allocation issues in the production, distribution, and consumption of food and natural resource use.

Prereq: Not open to students with credit for 2001H or Econ 2001. This course is available for EM credit. GE soc sci human, nat, and econ resources course.

2001H Principles of Food and Resource Economics U 3

Microeconomic principles applied to allocation issues in the production, distribution, and consumption of food and natural resource use.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2001 (200), Econ 2001 (200), or 2001H (200H). GE soc sci human, nat, and econ resources course. SS Admis Cond course.

2005 Data Analysis for Agribusiness and Applied Economics U 3

Introductory course in data analysis, stressing computer applications of probability and statistics, problems of data gathering, presentation, and interpretation in economics and business.

Prereq: Math 1130 (130) or 1131 (131) or 1148 (148) or 1150 (150) or 1151.01 (151.01) or 1151.02 (151.02) or 1156 (151.03). Not open to students with credit for 2005 (205) or ComLdr 3537 (AgrEduc 387 or AEE 387) or HCS 2260 (260) or AnimSci 2260 (260) or Stat 1430 (133) or 1450 (145). GE data anal course.

2105 Managerial Records and Analysis U 3

Nature and need for business records, analysis and interpretation of essential records from manager/owner viewpoint; their use in small business practices.

Prereq: 2001 or 2001H or Econ 2001.01, 2001.02, or 2001.03H. Not open to students with credit for AcctMIS 2200 or 2300.

2500 Introduction to Environment, Economy, Development and Sustainability U 3

Introduces students to principles from various disciplines related to social, economic and environmental sustainability. Students will evaluate key concepts and examine tradeoffs that are a part of sustainability action using case studies representing diverse perspectives.

Prereq: Soph standing, or permission of instructor. Cross-listed in ENR.

2580 Feast or Famine: The Global Business of Food U 3

Global and regional trends in food consumption and production are surveyed. Trade, technological change, and other responses to food scarcity are analyzed.

Prereq: Not open to students with credit for 280 or 335 or IntStd 2580 (280). GE soc sci human, nat, and econ resources and diversity global studies course. Cross-listed in IntStd.

3101 Principles of Agribusiness Management U 3

Introduction to agribusiness management principles and skills in the context of the four functions of management: planning, organizing, directing, and controlling.

Prereq: 2001 (200) or 2001H (201H) or Econ 2001 (200) or 2001H (200H). Not open to students with credit for 401.

3102 Principles of Agribusiness Marketing U 3

Study of specific problems of marketing food and fiber products with emphasis on structures and institutions facing agribusinesses in domestic and international markets.

Prereq: 2001 (200), 2001H (200H), Econ 2001 (200), or 2001H (201H). Not open to students with credit for 402.

3103 Principles of Agribusiness Finance U 3

Financial management of agribusinesses: financial system, time value of money, security valuation, capital budgeting, capital structure, portfolio analysis, financial institutions, futures and options contracts.

Prereq: 2001 (200), 2001H (200H), Econ 2001 (200), or 2001H (201H); and AEDEcon 2105 (412) or AcctMIS 2200 (211); and AEDEcon 2005 (205), AEE 387, AnimSci 2260 (260), ComLdr 3537, HCS 2260 (260), Stat 1430 (133), or 1450 (145). Not open to students with credit for 403.

3104 Farm Business Management U 3

Analysis of resource control and detailed application of economic and management principles to the organization, operation, and administration of farm businesses.

Prereq: 3101 (401). Not open to students with credit for 410.

3113 Commodity Futures and Options Markets U 2

Institutional structure, allocative function, and managerial applications of commodity futures and options markets.

Prereq: 2001, 2001H, Econ 2001.01, or 2001.03H; and Math 1130 or 1148. Not open to students with credit for 5250.

3121 Salesmanship in Agribusiness and Agriculture U 2

Principles and techniques of selling to agribusiness buyers.

Prereq: 2001 (200), 2001H (201H), Econ 2001 (200), or 2001H (200H). Not open to students with credit for 421.

3123 Grain Merchandising U 2

Principles and practices involved in grain and feed marketing and the theory of grain pricing; economics of grain marketing.

Prereq: Math 1130 or 1148. Prereq or concur: AEDEcon 3113.

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3128	Marketing Fruits and Vegetables	U	2		4106	Strategic Management	U	3
	Principles involved in the marketing of fresh and processed fruits and vegetables and the institutions and agencies concerned in pricing and product flows from producer to consumer. Prereq: 2001 (200), 2001H (201H), Econ 2001 (200), or 2001H (200H). Not open to students with credit for 428 or 528.				Experiential learning and managerial economics applied to strategic management in agribusiness. Formulate managerial strategies in a competitive environment constrained by the firm's products, internal resources, market segments, and supply chains. Prereq: 3101 (401), 3103 (403), and 4001 (500), and a second writing course. Not open to students with credit for 601.			
3131	Advanced Sales Techniques and Practice	U	2		4191	EEDS Professional Practice in Agricultural, Environmental, and Development Economics	U	2
	Expands on basic sales principles with additional emphasis on required skills to establish long term customer-client relationships in today's business context. Prereq: 3121.				Preparation of a written report and delivery of a presentation based on internship employment in sustainability-based professions. Prereq: Not open to students with 2 completions or 4 credits of ENR 4191 or 689 or AEDEcon 4191. This course is graded S/U.			
3141	Agricultural Cooperatives	U	2		4193	Individual Studies in Agribusiness and Applied Economics	U	2 - 3
	Basic principles of cooperatives including types of organizations, legal aspects, governance, membership relations, debt and equity financing, organizational and inter-cooperative problems, and distribution of earnings. Prereq: 2001, 2001H, Econ 2001, or 2001H. Not open to students with credit for 441 or 541.				Planning, conducting, and reporting a special problem in agricultural economics. Prereq: CPHR 2.50 or above, and permission of instructor. Not open to students with 6 cr hrs in 4193 or 693.01-693.08. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.			
3160	Human Resource Management in Small Businesses	U	2		4194	Group Studies in Agribusiness and Applied Economics	U	2 - 5
	Human resource planning, job analysis, organizational structure, recruitment and selection, training, motivation, leadership, communication, compensation, and evaluating employee performance in context of small businesses. Prereq: Jr standing. Not open to students with credit for 460 or 560.				Selected topics in agricultural economics to acquaint students with current economic conditions. Prereq: Permission of instructor. Not open to students with 10 cr hrs of 4194 (694-series). Repeatable to a maximum of 5 cr hrs or 2 completions. This course is graded S/U.			
3170	Agribusiness Law	U	3		4310	Environmental and Natural Resources Economics	U	3
	A study of the legal system and selected areas of law that affect agricultural types of businesses, including civil liabilities, property law, business law and regulatory law. Prereq: 2001 (200), 2001H (200H), Econ 2001 (200), or 2001H (201H). Not open to students with credit for 470 or 670.				Economic analysis of the use and management of natural resources and of environmental policy. Prereq: 2001 (200) or Econ 2001 (200). Not open to students with credit for 531, ENR 4310 or 531.			
3191	Internship in Agribusiness and Applied Economics	U	2		4320	Energy, the Environment, and the Economy	U	3
	Supervised experience with an approved firm or organization; pre-approved proposal and report are required. Prereq: 3101 (401), 3102 (402), 3103 (403), 4001 (500), or Econ 4001 (501), and enrollment in department major, and permission of instructor. Not open to students with credit for 489. This course is graded S/U.				Understand the role of energy in the economy and the environment. Explore the economics of clean, renewable energy, and understand the different policies for pollution control. Prereq: 2001 (200) or Econ 2001 (200). Not open to students with credit for 565 or IntStd 4320 (565). Cross-listed in IntStd 4320.			
3488	Professional Development in Agribusiness and Applied Economics	U	1 - 2		4320E	Energy, the Environment, and the Economy	U	3
	Participation in structured co-curricular programs leading to professional development. Prereq: CPHR 2.0 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.				Understand the role of energy in the economy and the environment. Explore the economics of clean, renewable energy, and understand the different policies for pollution control. Prereq: 2001 (200), Econ 2001.01, 2001.02, or 2001.03 (200). Not open to students with credit for 565 or IntStd 4320 (565). Cross-listed in IntStd 4320.			
3680	Regional Economics and Sustainable Growth	U	3		4330	The Sustainable Economy: Concepts and Methods	U	3
	Designed to study theories and methodologies for analyzing rural and regional economic development, primarily in advanced economies. Prereq: 2001 (200), or equiv course in Microeconomics.				Introduces students to core concepts of sustainability in economics and the quantitative methods necessary to understand and evaluate sustainable development. Prereq: 4310.			
4001	Managerial Economics for Agribusiness	U	3		4340	Project Management for Sustainability and Applied Economics	U	2
	Application of economic theory and methods to agribusiness decision making. Prereq: 2001 (200) or 2001H (200H) or Econ 2001 (200) or 2001H (201H); and 1131 (Math 131 [Wi 03 or thereafter]) or 1132 (132) or 1151.01 (151.01) or 1152.01 (152.01). Not open to students with credit for 500.				An introduction to project management concepts and techniques focusing on how to initiate, plan, manage, control, and close projects related to sustainability and applied economics.			
4002.01	Econometric Applications in Agribusiness and Applied Economics	U	2		4532	Food Security and Globalization	U	3
	Quantitative models and methods and their application to agricultural, environmental, and development economics and agribusiness. Prereq: 2005 (205) or AEE 387 or AnimSci 2260 (260) or ComLdr 3537 or HCS 2260 (260) or Stat 1430 (133) or 1145 (145); and AEDEcon 2001 (200) or 2001H (200H) or Econ 2001 (200) or 2001H (201H); and Math1131 (131 [Wi 03 or thereafter]) or 1132 (132) or 1151.01 (151.01) or 1152.01 (152.01). Prereq or concur: 4001 (500) or Econ 4001.02 (501.02). Not open to students with credit for 502.				Examination of the causes of and solutions for food insecurity. Global and local factors that affect access to food are also considered. Prereq: 2001 (200) or Econ 2001 (200), or permission of instructor. Not open to students with credit for 434 or 532, or IntStd 4532 or 434. Cross-listed in IntStd 4532.			
4002.02	Operations Research in Agribusiness and Applied Economics	U	2		4534	Comparative Challenges to Economic Development: Sub-Saharan Africa, Latin America, and China	U	3
	Quantitative models and methods and their application to agricultural, environmental, and development economics and agribusiness. Prereq: 2005 (205), ComLdr 3537 (AEE 387), HCS 2260 (260), AnimSci 2260 (260), Stat 1145, or 1430 (133); and AEDEcon 2001 (200) or 2001H (200H) or Econ 2001 (200) or 2001H (201H); and Math 1131 (131 [Wi 03 or thereafter]) or 1132 (132) or 1151.01 (151.01) or 1152.01 (152.01). Prereq or concur: 4002.01, or Econ 4001 (500) and 4001.02 (501.02). Not open to students with credit for 502.				An introductory survey course of issues shaping economic development in Sub-Saharan Africa, Latin America, and China, such as: population growth, agricultural development, industrialization, trade, structural adjustment, and environmental issues. Prereq: 2001 (200), or 2001H (200H), or Econ 2001 (200), or 2001H (200H). Not open for students with credit for 4536 (536), or 4538 (538), or 4539 (539), or IntStd 4536, (536), or 4538 (538), or 4539 (539). Cross-listed in IntStd 4536.			
4003	Economics of Public Policy Analysis	U	3		4535	International Economic Development	U	3
	Understanding of economic tools and concepts for analyzing public policies important to the food industry, agriculture and natural resources. Prereq: 2001 (200) or 2001H (200H) or Econ 2001 (200) or 2001H (201H); and Math 1131 (131 [Wi 03 or thereafter]) or 1132 (132) or 1151 (151) or 1152 (152). Prereq or concur: 4001 (500) or Econ 4001.02 (501.02). Not open to students with credit for 503.				Study of the growth and diversification of developing economies and the causes of poverty and inequality. Analyze the impacts of human capital formation, markets, and public policy on development. Prereq: 2001 (200) or Econ 2001 (200). Not open to students with credit for 435 or 535, or IntStd 4535 (535) or 435, or PubAfrs 4535. Cross-listed in IntStd 4535 and PubAfrs.			
4103	Advanced Agribusiness Finance	U	2		4536	Economic Development of Sub-Saharan Africa	U	3
	Advanced financial management for farm businesses, agribusinesses, and cooperatives: financial analysis, time value of money, capital budgeting, risk and return, portfolio analysis, credit evaluation, and risk management. Prereq or concur: 3103, or BusFin 3120 or 3220.				Issues shaping economic development and stagnation in contemporary Africa, such as population growth, agricultural development, industrialization, trade, structural adjustment and environmental issues. Prereq: 2001 (200) or Econ 2001 (200). Not open to students with credit for 436 or 536, or IntStd 436 or 4536 (536). Cross-listed in IntStd 436.			

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4537 Middle Eastern Economic Development	U	3	6110 Applied Quantitative Methods I	G	4
Introduction to current economic issues facing and similarities and differences in Middle Eastern countries' growth, inflation, unemployment, fiscal and monetary policy, imports, exports, foreign debt and exchange rate policy. Prereq: 2001 (200) or Econ 2001 (200). Not open to students with credit for 437 or 4537 (537), or Econ 4537 (537), or IntStd 437 or 4537 (537). Cross-listed in Econ and IntStd.					
4538 Latin American Economic Development					
4538 Latin American Economic Development	U	3	6120 Applied Quantitative Methods II	G	4
Public policy and other factors influencing economic growth in Latin America are examined. Prereq: 2001 (200) or Econ 2001 (200). Not open to students with credit for 438 or 538, or IntStd 4538 (538). Cross-listed in IntStd.					
4539 China's Economic Reforms and Globalization	U	3	6194 Group Studies	G	1 - 4
An introductory survey course of economic reforms and globalization in China with emphasis on economic and social transformation, and its integration into the global economy. Prereq: 2001 (200) or Econ 2001 (200), or permission of instructor. Not open to students with credit for 439 or 539, or IntStd 439 or 4539 (539). Cross-listed in IntStd.					
4540 International Commerce and the World Economy	U	3	6200 International Economics and Policy	G	3
Application of trade theory and policies to world trade that impacts global business. Prereq: 2001 (200) or 2001H (200H), or Econ 2001 (200) or 2001H (200H), or permission of instructor. Not open to students with credit for 540 or IntStd 4540 (540). Cross-listed in IntStd.					
4567 Assessing Sustainability: Project Experience	U	3	6300 Environmental and Resource Economics	G	3
Students gain experience in sustainability assessment by applying concepts and quantitative methods to evaluate environmental, economic, social & technical sustainability of specific projects. EEDS major capstone. Co-taught by ENR/AEDE faculty. Prereq: Sr standing, or permission of instructor. Not open to students with credit for ENR 4567. Cross-listed in ENR.					
4597.01 Food, Population, and the Environment	U	3	6330 Benefit-Cost Analysis	G	3
Issues related to world-wide population increases, food production, and associated environmental stress; policy options for lessening these concerns, especially in low-income countries. Prereq: Jr or Sr standing. Not open to students with credit for 597.01, 4597.01H (597.01H), IntStd 4597.01 (597.01), or 4597.01H (597.01H). GE cross-disciplinary seminar course. Cross-listed in IntStd.					
4597.01H Food, Population, and the Environment	U	3	6400 Regional and International Development	G	3
Issues related to world-wide population increases, food production, and associated environmental stress; policy options for lessening these concerns, especially in low-income countries. Prereq: Honors standing, and Sr standing; or permission of department or instructor. Not open to students with credit for 597.01H, 4597.01 (597.01), IntStd 4597.01H (597.01H), or 4597.01 (597.01). GE cross-disciplinary seminar course. Cross-listed in IntStd.					
4999 Research With Distinction	U	1 - 3	6401 International Economic Development	G	3
Conducting and reporting research with Distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum. Prereq: CPHR 3.0 overall, and GPA 3.0 or above in major, and permission of project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.					
4999H Honors Research With Distinction	U	1 - 3	7110 Advanced Quantitative Methods I	G	3
Conducting and reporting the honors research with distinction. Students are expected to present at the CFAES Undergraduate Research and the Denman University Undergraduate Research Forums. Prereq: Honors standing, and FAES 4590.01H (590.01H), and CPHR 3.4 or above, and GPA 3.4 or above, and permission of honors project supervisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.					
5330 Benefit-Cost Analysis	U G	3	7120 Advanced Quantitative Methods II	G	3
Benefit-cost analysis theory and methods and their application to projects pertaining to public infrastructure, agriculture, the environment, natural resources, and human health. Prereq: 4310 (531). Not open to students with credit for 6330 or 631.					
5500 Agribusiness and Applied Economics Project Experience	U G	3	7130 Applied Econometrics I	G	3
Field projects with participating organizations that require application of one or more key principles of agribusiness management or applied economics. Prereq: 3101, 3102, 3103, and permission of instructor. Repeatable to a maximum of 6 cr hrs.					
5797 Study at a Foreign Institution	U G	1 - 15	7140 Applied Econometrics II	G	3
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of dept. chairperson. Repeatable to a maximum of 25 cr hrs or 3 completions.					
5900 Food System Planning and the Economy	U G	3	7310 Advanced Environmental Economics	G	3
Examines the social, environmental and economic costs and benefits of our food production, distribution, and consumption. Prereq: Not open to students with credit for CRPlan 5900 or PubAfrs 5900. Cross-listed in CRPlan and PubAfrs.					
7320 Advanced Resource Economics	G	3	7410 Advanced Regional Economics I	G	3
7415 Advanced Regional Economics 2	G	3	7415 Advanced Regional Economics 2	G	3

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7421 Advanced Development Economics I	G	3	4998 Undergraduate Research	U	1 - 10
Application of advanced economic theory and methods to problems of international economic development.			Conducting and reporting an undergraduate research project.		
Prereq: Econ 8712 (804). Not open to students with credit for 840.			Prereq: Permission of instructor. This course is graded S/U.		
7425 Advanced Development Economics II	G	3	4999 Research with Distinction	U	1 - 6
Application of advanced economic theory and methods to problems of international economic development. Continuation of ADEEcon 7421.			Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.		
Prereq: Econ 8712 (804). Not open to students with credit for 840.			Prereq: CPHR 3.0 or above, and GPA 3.0 or above, and permission of project supervisor.		
7890 Workshop on Microeconomic Analysis	G	2	Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.		
Review and synthesis of advanced microeconomic theory and methods. For first-year AEDEcon PhD students preparing for microeconomics qualifying examination.			5193 Individual Studies in Agriscience Education	U G	1 - 3
Prereq: PhD standing in AEDEcon, and permission of instructor. This course is graded S/U.			Planning, conducting, and reporting a special study appropriate to the needs of the student.		
7999 Thesis Research	G	1 - 18	Prereq: CPHR 2.50 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.		
Individual research for thesis or Plan B paper.			5194 Group Studies	U G	1 - 3
Prereq: MS student in AEDEcon. Repeatable to a maximum of 36 cr hrs or 10 completions. This course is graded S/U.			Group studies for students in specialized programs.		
8193 Individual Studies	G	1 - 4	Repeatable to a maximum of 10 cr hrs or 5 completions.		
Analysis of special problems in agricultural, environmental, and development economics by an individual student, under the guidance of an instructor.			5230 Methods of Teaching in Agriscience Education	U G	3
Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs. This course is graded S/U.			Examining the teaching and learning process with emphasis on planning and delivering agriscience instruction in public schools. Students will demonstrate competence in agricultural literacy instruction, and science-based agriculture instruction.		
8194 Group Studies	G	1 - 4	Prereq: AEE 230 and 280. Not open to students with credit for AEE 530.02.		
Analysis of special problems in agricultural, environmental, and development economics by various students, under the guidance of an instructor.			5231 Experiential Learning in Agriscience Education	U G	2
Prereq: Permission of instructor. This course is graded S/U.			Provides future secondary agriscience teachers with a foundation in experiential education as part of a comprehensive agricultural education program including supervised agricultural experience and career technical student leader organizations.		
8200 Frontiers of AED Economics	G	1 - 6	Prereq: Not open to students with credit for AEE 531.		
Critical discussion of seminal and innovative scholarly research in agricultural, environmental, and development economics.			5255 Program Planning in Agriscience Education	U G	2
Prereq: Grad standing in AEDEcon. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.			Principles and procedures used in planning and conducting programs of career and technical education in the public schools.		
8800 Seminar in AED Economics	G	1	Prereq: Not open to students with credit for AEE 585.		
Critical discussion of current academic research in agricultural, environmental, and development economics.			5280 Internship in Agriscience Education	U G	4
Prereq: PhD standing in AEDEcon, and permission of instructor. This course is graded S/U.			Supervised participation in teaching and other professional responsibilities of teachers of agriculture in the public schools.		
8890 Workshop on Research Methods	G	2	Prereq: 5230 and 5231. Not open to students with credit for AEE 580.01.		
Preparation of research manuscripts in agricultural, environmental, and development economics.			5281 Capstone in Agriscience Education	U G	4
Prereq: PhD standing in AEDEcon, and permission of instructor. This course is graded S/U.			Clinical analysis of teaching agriculture in the public schools, conferences, and seminars.		
8895 PhD Research Seminar	G	1 - 4	Prereq: 5230 and 5231. Not open to students with credit for AEE 580.02.		
PhD Students presenting and discussing research in agricultural, environmental, and development economics under the guidance of an instructor.			5282 Evaluation in Agriscience Education	U G	4
Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Lesson plan development, written assignments, and other documentation of teaching agriculture in the public schools, conferences, and seminars.		
8999 Thesis and Dissertation Research	G	1 - 16	Prereq: 5280 and 5282. Not open to students with credit for AEE 580.03.		
Individual research for doctoral dissertation.			5797 Study at a Foreign Institution	U G	3
Prereq: PhD candidate in AEDEcon. Repeatable. This course is graded S/U.			The study abroad program will provide undergraduate and graduate students with an opportunity to learn about agriculture and related issues in a foreign country and receive credit for that work.		
			Repeatable to a maximum of 9 cr hrs.		

Agriscience Education

2189 Early Experience in Agriscience Education	U	1	Air Force Aerospace Studies		
The early experience program is designed to help students explore careers and gain experience in Agriscience Education.			1001 The Foundation of the United States Air Force I	U	1
Prereq: Not open to students with credit for AEE 280.			Introduction to the United States Air Force and ROTC. Officership and military customs and courtesies are discussed. Foundations of Air Force communication are covered.		
2193 Individual Studies	U	1 - 3	1002 The Foundation of the United States Air Force II	U	1
Planning, conducting, and reporting a special study appropriate to the needs of the student.			Looks at the origin and organization of the Air Force. Selected topics contributing to an understanding of the Air Force are covered.		
Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.			2001 Evolution of United States Air Force Air and Space Power I	U	1
2194 Group Studies	U	1 - 5	Examines air and space power from an historical perspective. Covers early flight and World War I to the Korean War and ICBMs.		
Group studies for students in specialized programs.			2002 Evolution of United States Air Force Air and Space Power II	U	1
Repeatable to a maximum of 10 cr hrs or 5 completions.			Examines air and space power from an historical perspective. Covers period from the Vietnam War to the Gulf War plus a look at the Air Force of the future.		
3488 Professional Development in Agriscience Education	U	1 - 3	3001 Air Force Leadership Studies I	U	3
Developing Twenty-first Century skills through hands-on, contextual, and authentic, out-of-class experiences. Students, working individually with the instructor, will design and engage in developmental skill activities.			Study of leadership professional knowledge and communication skills required for an Air Force officer. The role of a leader as supervisor and counselor is discussed.		
Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.			Prereq: 1001, 1002, 2001, and 2002, and permission of instructor.		
4189 Context-Based Learning in Agriscience Education	U	2	3002 Air Force Leadership Studies II	U	3
Students will be provided field experiences in agricultural education. They will gain the skills necessary to work in the diverse and nontraditional environments of agricultural education.			Study of quality management fundamentals and communication skills for the Air Force officer. The Air Force personnel evaluation system and military ethics are discussed.		
Prereq: Professional standing, and placed for student teaching.			Prereq: 1001, 1002, 2001, 2002, and 3001, and permission of instructor.		
4194 Group Studies in Agriscience Education	U	1 - 3			
Specialized topics in Agriscience Education.					
Repeatable to a maximum of 10 cr hrs or 5 completions.					

16 Air Force Aerospace Studies

4001 Air Force Defense Studies I

U 3

Course examines the political, economic and social constraints upon national security and defense structure. The role of the military including joint operations is discussed. Regional defense issues studies.

Prereq: 1001, 1002, 2001, 2002, 3001, and 3002, and permission of instructor.

4002 Air Force Defense Studies II

U 3

The role of the military and regional defense are studied. Current air force issues and other topics relevant to preparing an air force officer for active duty are covered.

Prereq: 1001, 1002, 2001, 2002, 3001, 3002, and 4001, and permission of instructor.

American Indian Studies

4998 Undergraduate Research

U 1 - 4

Undergraduate research in variable topics related to American Indian Studies. Student-initiated projects.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4998H Research in American Indian Studies Honors

U 1 - 4

Undergraduate honors student research or creative project in variable topics related to American Indian Studies.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4999 Undergraduate Research: Thesis

U 1 - 4

A program of reading arranged for each student, with individual conferences, reports, paper and/or thesis.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

4999H Honors Thesis Research

U 1 - 4

A program of reading, research, writing, and/or creative work arranged for each student, with individual conferences, progress reports, and honors thesis.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

5191 Internship

U G 1 - 3

Workplace experience requiring writing and/or research.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5193 Individual Studies

U G 1 - 3

Individual directed study for work not typically offered in courses.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5194 Group Studies

U G 1 - 3

Directed group study for a topic not offered in regular courses.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

5700 American Indian Studies Workshop

U G 1 - 3

Structured participation in seminar or event organized for that semester.

Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

American Sign Language

1101 Elementary American Sign Language I

U 4

Students develop elementary ASL skills-receptive (listening) and expressive (speaking).

American deaf culture and history introduced with an emphasis on making comparisons and connections to one's own culture. Instruction primarily in ASL. Not open to native users of ASL.

Prereq: Not open to students with 2 or more years of ASL study in high school. Not open to students with credit for 101, English 101, or EduTL 101. This course is available for EM credit. GE for lang course.

1102 Elementary American Sign Language II

U 4

Further development of ASL skills. Focus on talking about others. Continued exploration of American deaf culture and history. Instruction primarily in ASL. Not open to native users of ASL.

Prereq: 1101 (101), English 101, or EduTL 101. Not open to students with credit for 102, English 102, or EduTL 102. This course is available for EM credit. GE for lang course.

1103 Intermediate American Sign Language

U 4

Advanced development of ASL skills. Focus on talking about community. Continued exploration of American deaf culture and history. Instruction primarily in ASL. Not open to native users of ASL.

Prereq: 1102 (102), English 102, or EduTL 102. Not open to students with credit for 103, EduTL 113, or SphHrg 103, or equiv. This course is available for EM credit. GE for lang course.

2104 American Sign Language Conversational Discourse

U 3

This course is designed to develop conversational discourse and personal narrative skills in ASL. Students will continue the development of ASL communication skills both receptively and expressively, by expanding on ASL vocabulary and ASL grammar. These skills will allow students the ability to expand conversations in ASL beyond every day topics. Course instruction is in the target language, ASL.

Prereq: A grade of C or better in 1103, or permission of department.

3105 American Sign Language Literature

U 3

This course is an introduction to American Sign Language Literature through exploration and analysis of storytelling and poetry of the American Deaf Community. Students will expand their expressive and receptive skills by examining and deciphering ASL literary works by native ASL users as well as by creating their own works of literature using ASL. Knowledge and use of ASL is required.

Prereq: A grade of C or better in 2104, or permission of department.

3350 American Deaf Arts and Literature

U 3

Survey of literary and artistic works about being deaf that are written or created by individuals who are American deaf.

Prereq: Not open to students with credit for ArtsSci 350.

4189S Intersection of American Sign Language, Deaf Culture, and the Deaf Community

U 3

Designed to increase student awareness of agencies and organizations that serve the central Ohio deaf community. Students will have the opportunity to use American Sign Language with fluent users and apply their understanding of cultural norms and expectations through providing needed services and support at those organizations.

Prereq: 1101, and permission of instructor or department.

Anatomy

2220 Human Structure and Function for Engineers

U 4

Offers a block of lectures and laboratories that present the fundamentals of human anatomy and physiology tailored to undergraduate bioengineering students.

Prereq: Enrollment in BiomedE major, or permission of instructor. Not open to students with credit for 220.

2300.01 Human Anatomy

U 4

Regional study of the basic structure and terminology associated with the human body supplemented with computer-assisted instruction. Laboratory includes demonstrations on prosected human cadavers.

Prereq: Health Science students in CED and ASC. Not open to students with credit for 3300.

2300.02 Human Anatomy

U 4

Regional study of the basic structure and terminology associated with the human body supplemented with computer-assisted instruction. Laboratory includes demonstrations on prosected human cadavers.

Prereq: Enrollment in DHY only. Not open to students with credit for 3300.

2300.03 Human Anatomy

U 4

Regional study of the basic structure and terminology associated with the human body supplemented with computer-assisted instruction. Laboratory includes demonstrations on prosected human cadavers.

Prereq: GPA 2.75 or above, and enrollment in pre-Nursing. Not open to students with credit for 3300.

2300.04 Human Anatomy

U 4

Regional study of the basic structure and terminology associated with the human body supplemented with computer-assisted instruction. Laboratory includes demonstrations on prosected human cadavers.

Prereq: Enrollment in pre-AMP , AMP , pre-Opt, ExSci, pre-Pharm, or pre-Dent. Not open to students with credit for 3300.

3300 Advanced Human Anatomy for Undergraduates

U 5

Fundamental principles of human anatomy using a regional approach. Instructional format includes lecture, laboratory with prosected human cadavers, practical examinations, and interactive computer software and website.

Prereq: Not open to students with credit for 2300.

4300 Human Anatomy with Dissection

U 4

Advanced undergraduate study of the structure of the human body through regional dissection of a human cadaver and an introduction to histology, embryology, neuroanatomy, and medical imaging.

Prereq: 2300.xx (199.xx) or 3300 (200), and permission of instructor.

5300 Learning Human Anatomy Through Dissection

U G 2

Enables students with introductory human gross anatomy experience the opportunity to further investigate the human body through the complete dissection of a human cadaver.

Prereq: A grade of B- or better in 2300 or 3300, or equiv; and an application (with selection process), and permission of Course Director. This course is graded S/U.

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5440 Advanced Regional Dissection for Undergraduate Students	U G 2	7891 Anatomy Seminar in Research	G 1
Enables students with introductory human gross anatomy experience the opportunity to further investigate the human body through the in-depth independent dissection of one or more regions of the human body.		Readings and discussion of topics in biomedical or educational research pertinent to anatomy.	
Prereq: A grade of B- or above in 2300 or 3300 or equiv., and an application (with selection process), and permission of Course Director. Repeatable to a maximum of 6 cr hrs.		Prereq: Grad standing in Anatomy, or permission of instructor. Repeatable to a maximum of 8 cr hrs with content change. This course is graded S/U.	
5710 History of Anatomy	U G 3	7892 Advanced Topics in Injury Biomechanics	G 2
This course examines the history of anatomy as a way categorizing and explaining the relationships of parts to wholes in once living creatures, notably human beings. We focus on the history of anatomical observations, education, modes of communication, and professionalization.		This is an advanced discussion-based seminar exploring new methods and research in injury biomechanics.	
Prereq: 2220, 2300, or 3300; or Grad standing; or permission of both instructors. Cross-listed in History.		Prereq: Grad standing in Engineering, or permission of instructor.	
6000 Advanced Musculoskeletal Anatomy	G 5	7999 Master Research in Anatomy	G 1 - 8
Musculoskeletal anatomy of the human body through an in-depth dissection experience.		Designed to enable the student to conduct an in-depth research investigation in some anatomical field of choice.	
Prereq: Enrollment in DPT, OTD, or MOT programs, and permission of instructor.		Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 20 completions. This course is graded S/U.	
6193 Individual Studies in Anatomy	G 1 - 5	8120 Advanced Studies in Embryology	G M 2
Enables the student to pursue a minor investigation in some anatomical field of choice.		Mammalian embryological development using descriptive & experimental studies in variety of vertebrate models to present current information on molecular mechanisms responsible for normal development & birth defect in humans. Anatomy 6600 recommended.	
Prereq: Grad standing in Anatomy, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.		Prereq: Grad or professional standing; or medical or dental residency; or advanced undergraduate, and permission of instructor. Repeatable to a maximum of 4 cr hrs.	
6220 Human Anatomy with Dissection for Engineers	G 5	8130 Advanced Studies in Tomographic Anatomy	G 1 - 4
Introduction to human anatomy for engineering graduate students using a regional approach through lectures, dissection laboratory, and computer software.		In-depth study of human anatomy using multiplanar sections of the body obtained using modern imaging modalities (computed tomography, magnetic resonance imaging, and ultrasonography) emphasizing the inter-relationships of structures to one another.	
Prereq: Grad standing in Engineering, or permission of instructor.		Prereq: 6900 or equiv, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions.	
6511 Human Anatomy for Dental Students I	M 7	8140 Advanced Regional Dissection	G 2 - 4
Introduces dental students to the basic concepts of human gross anatomy, histology, neuroscience and embryology.		In-depth dissection of one or more regions of the human body, supplemented with literature research.	
Prereq: Enrollment in Dentistry, or permission of instructor.		Prereq: 6900 or equiv, and permission of instructor. Repeatable to a maximum of 24 cr hrs or 6 completions.	
6512 Human Anatomy for Dental Students II	M 8	8289 Anatomy Teaching Practicum	G M 1 - 4
Continues the introduction of dental students to the basic concepts of human gross anatomy, histology, neuroscience and embryology.		A teaching practicum involving direct participation in classroom teaching under the guidance of a faculty mentor.	
Prereq: Enrollment in Dentistry, or permission of instructor.		Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.	
6600 Human Embryology	G 2	8999 Research in Anatomy	G 2 - 8
Designed to acquaint graduate students with a basic knowledge of human embryology.		Designed to enable the student to conduct an in depth research investigation in some anatomical field of choice.	
Prereq: Grad standing in Anatomy, or permission of instructor. Not open to students with credit for 710.		Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 20 completions. This course is progress graded (S/U).	
6700 Human Histology	G 4		
The microscopic study of cells, tissues, and organs with particular emphasis on human. The microscopic structure of various organ systems are integrated with their functions.			
Prereq: Grad standing in Anatomy, or permission of instructor.			
6800 Human Neuroanatomy	G 4		
Introduces graduate students to the basic concepts of human neuroanatomy.			
Prereq: Grad standing in Anatomy, or permission of instructor. Not open to students with credit for NeuroSc 716.			
6900 Human Anatomy for Graduate Students	G 8		
Graduate level study of human anatomy by regional dissection. Anatomy 200 or equivalent is recommended.			
Prereq: Permission of instructor.			
7289 Practicum: Developing Educational Components	G M 1 - 4		
Practical experience developing education tool(s) and/or curricular component(s) in Anatomy.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			
7310 Advanced Anatomy for Dental Residents	G 1		
Advanced head and neck anatomy for residents in the dental specialties.			
Prereq: DDS or equiv, and enrollment as a resident or fellow in dental residency program.			
7500 Radiologic Anatomy	G 2		
Application of knowledge of the anatomy of the human body to the interpretation and understanding of diagnostic images.			
Prereq: 6900 or equiv, and permission of instructor.			
7800 History of Anatomy	G M 2 - 3		
The primary focus of this seminar course is to introduce students to the chronology, global context, and impact of anatomy, with focuses on education, illustration, research, and ethics. This course will provide students with exposure to the evolution of the science of anatomy, while also developing professional skills through in-class and online discussions, and oral presentations.			
Prereq: Grad standing in Anatomy or permission of instructor.			
7890 Anatomy Seminar in Education	G M 1		
Readings and discussion of topics in anatomical education or biomedical pedagogy and curricular development pertinent to anatomy.			
Prereq: Grad standing in Anatomy, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.			

Animal Sciences

1100 Exploring in Animal Sciences	U ½
Basic understanding of departmental degrees and academic opportunities for undergraduate development.	
Prereq: Not open to students with Soph standing or above. Cross-listed in MeatSci.	
2000 Animal Handling	U 2
General introduction to domestic animal behavior and hands-on experience handling food animal species.	
2200.01 Introductory Animal Sciences	U 3
A study of the basic principles of genetics, breeding, reproduction, nutrition, behavior, and biotechnology as it applies to the molecular, cellular, and physical underpinnings of domesticated animal form and function. The online course is not open to students with a declared AnimSci major.	
Prereq: Not open to students with credit for 2300H. GE nat sci bio course.	
2200.02 Introductory Animal Sciences Laboratory	U 1
Laboratory experience associated with basic principles of genetics, breeding, reproduction, nutrition, behavior, and biotechnology as it applies to the molecular, cellular, and physical underpinnings of domesticated animal form and function.	
Prereq or concr: 2200.01 or 2300H, or permission of instructor. GE nat sci bio course.	
2200.03 Animal Systems	U 2
Overview of the size and scope of the livestock and companion animal systems, the economic and social impact of the animals and their products, and the structure of the industries.	
2221 Introduction to Equine Studies	U 3
Introduces students to equine studies. Uses of the horse, their economic impact on society, and principles of equine behavior, anatomy, physiology, nutrition, reproduction, and health and disease are emphasized.	
Prereq: Not open to students with credit for 201.	
2260 Data Analysis and Interpretation for Decision Making	U 3
Introduces students to the use of statistics in data analysis and interpretation. Students develop skills in quantitative literacy and logical reasoning.	
Prereq: Math 1130, 1148, 1150, or 1151. Not open to students with credit for AEDEcon 2205, ComLdr 3537, ENR 2000, HCS 2260, or Stat 1450. GE data anly course.	

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2300H Honors Introductory Animal Sciences	U	3	3110 Introductory Meat Science	U	3
A study of the basic principles of genetics, breeding, reproduction, nutrition, behavior, and biotechnology as it applies to the molecular, cellular, and physical underpinnings of domesticated animal form and function.			Analysis of the principles of meat science as related to meat animal value factors, processing technology, and merchandising systems affecting the producer, processor, and consumer.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2200.01. GE nat sci bio course.			Prereq: Biology 1101 or 1113. Not open to students with credit for MeatSci 3110. Cross-listed in MeatSci.		
2301 Equine Behavior and Training	U	3	3130 Principles of Animal Nutrition	U	3
Introduces students to principles of equine behavior and training techniques and practical application of that knowledge to safely and effectively modify desirable and undesirable behavior of assigned horses. Must have medical insurance.			A study of nutrients needed by animals.		
Prereq: Permission of instructor. Not open to students with credit for 271.01. A maximum of 3 credits between 2301 and 2401 may count in the AnimSci major.			Prereq: 2200.01 (200), 2300H, Biology 1113 (113), or 1113H (115H), and Soph standing or above; or permission of instructor. Not open to students with credit for 330.		
2367 Animals in Society	U	3	3131 Equine Feeds and Feeding	U	3
Introduction to the historical, social, cultural, economic and legal frameworks within which current human-animal relationships have evolved.			Focuses on the nutrient needs of the horse and the significance of supplements and feeds as they relate to the horse's nutrition and health.		
Prereq: English 1110 (110) or 111, or equiv. Not open to students with credit for 240. GE writing and comm: level 2 and soc sci indivs and groups course.			Prereq: 2200.01 (200), 2221 (201), or 2300H (200H). Not open to students with credit for 331.		
2400.01 Equine Studies in Europe	U	1	3133 Principles of Feeds and Feeding	U	2
First course in a two-course series (2400.01 & 3797.01) designed to give students an appreciation for how world history, government, geography, and infrastructure can impact the equine industry within a society.			A study of the chemical composition of feedstuffs and the application toward providing optimal nutrition to managed animals.		
Prereq: 2200.01 (200), 2221 (201), or 2300H (200H), and permission of instructor. Repeatable to a maximum of 2 cr hrs.			Prereq: 3130.		
2400.05 Human and Animal Interactions	U	2	3140 Principles of Animal Systems Physiology	U	3
Students will expand their understanding of the role that animals play in shaping society, culture, and economics within the US and the non-US destination identified in the 3797.02, 3797.03, or 3797.04. This course has 3 required Saturday field trips.			An introductory course that surveys organs/systems within the body and relates the functional physiology of those systems to animal production.		
Prereq: Not open to students with credit for 248.			Prereq: Biology 1101 (101), 1113 (113), or 1113H (115H). Not open to students with credit for 310. GE nat sci bio course.		
2400.07 Global Dairy Industries	U	1	3140E Principles of Animal Systems Physiology	U	3
An opportunity for students to study the culture; political, economic, and social framework; and dairy industry of another country. This course is offered in conjunction with AnimSci 3797.07 - Dairy Industry Outside the US.			An introductory course that surveys organs/systems within the body and relates the functional physiology of those systems to animal production.		
Concur: 3797.07. Not open to students with credit for 697.04.			Prereq: Honors standing, and Biology 1101, 1113, or 1113H; or permission of instructor. Not open to students with credit for 3140 or 3140H. GE nat sci bio course.		
2401 Advanced Equine Behavior and Training	U	3	3147 Milk Secretion	U	2
Utilizes principles of equine behavior and advanced training techniques to safely and effectively modify desirable and undesirable behavior of assigned horses.			Introduction to mammary gland anatomy, milk synthesis, and factors affecting mammary health.		
Prereq: Permission of instructor. Must have medical insurance. Maximum of 3 credits between 2301 and 2401 may count in the AnimSci major. Repeatable to a maximum of 6 cr hrs.			Prereq: 2200.01 (200) or 2300H (200H), and Biology 1113 (113) or 1113H (115H). Not open to students with credit for 317.		
2500H Freshman Research Seminar: Contemporary Animal Biology Research	U	2	3150 Principles of Genetic Improvement	U	3
Exploration of prominent scientists and emerging issues in animal biology research. Only open to students with 60 cr hrs or fewer.			Introduction to the methods available for bringing about genetic change in animals.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 299H.			Prereq: 2200.01 (200) and 2200.02, or 2300H (200H); and 2260 (260), HCS 2260 (260), Stat 1450 (145), AEDEcon 2005 (205), ComLdr 3537, or AEE 387. Not open to students with credit for 320.		
2507 Challenges and Opportunities for the Dairy Industry	U	1	3160 Reproductive Physiology	U	3
Increase the understanding by students to the challenges and opportunities within the Ohio and US dairy industries. As the economic climate changes and the consumer demands shift, the dairy industry must respond.			Introduction to anatomy and physiology of reproductive systems of various species with a focus on agricultural species. 3140 (310) or 3140H (310H) is recommended.		
Prereq: 2200.01 (200) or 2300H (200H). Not open to students with credit for 347.			Prereq: 2200.01 (200) or 2300H (200H), and Soph standing or above. Not open to students with credit for 318.		
2700 Diverse Fields and Opportunities within Animal Sciences	U	1	3170 Animal Health I	U	2
Basic understanding of the global trends in animal sciences and the diversity of career opportunities within the industry, in addition to opportunities for undergraduate professional development. Students should plan to complete the course within the first year of enrollment within the major.			Provides students with an introduction to principles of animal health and emphasizes management practices that influence host-pathogen interactions. 3140 or 3140E is recommended.		
Prereq or concur: 1100 or MeatSci 1100.			Prereq: 2200.01 or 2300H, and Soph standing or above.		
3000 Puppy Love: Understanding Animal Emotions	U	3	3171 Equine Health & Disease	U	2
Overview of the science behind animal emotions in livestock and companion animals, including basic introduction to the neurological, physiological, and behavioral indicators of animal emotions.			Introduction to infectious disease affecting horses with emphasis on management practices that influence host-pathogen interactions.		
Prereq: Not open to students with credit for 400.			Prereq: 2200.01 (200), 2221 (201), or 2300H (200H).		
3100 Animal Growth and Development	U	3	3191 Internship in Animal Sciences	U	2
Exploring the formation of tissues and organs in domestic animal growth, their influence on form and function, and the value of their resulting products.			Supervised preplanned employment experience and/or on-site problem solving study program.		
Prereq: Not open to students with credit for 400.			Prereq: 12 cr hrs in AnimSci and/or MeatSci, and permission of academic advisor. This course is graded S/U. Cross-listed in MeatSci.		
3101 Equine Facilities, Marketing, and Management	U	3	3200 Applied Animal Bioscience Laboratory	U	2
Aspects of equine business management, marketing and facility design.			Laboratory experience exploring the organs, tissues and cells associated with the physiological systems of domestic animals and the nutrients used to support these systems.		
Prereq: 2200.01 (200), 2221 (201), or 2300H (200H). Not open to students with credit for 341.			Prereq or concur: 3130 (330), and 3140 (310) or 3140H (310H).		
3105 Domestication, Form, and Function of Dogs	U	3	3270 Animal Health II	U	2
A study of the events that have shaped the domestic dog. Includes a focus on the role of domestication, selective breeding, and factors impacting growth and development on form and function of the domestic dog.			Introduction to principles of immunology and emphasis on management practices that influence host immune responses.		
Prereq: 2200.01 (200), 2300H, Biology 1113 (113), or 1113H (115H), and Soph standing or above; or permission of instructor.			Prereq or concur: 3170.		
			3300 Livestock Selection and Evaluation	U	3
			Laboratory exercises employing current standards of animal excellence including carcass value for the selection and improvement of farm livestock.		
			Prereq: 3100, or Jr standing or above, or permission of instructor. Not open to students with credit for 300.		

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3301 Equine Selection and Evaluation U 2

Emphasis on the relationship of form to function by evaluating conformation and performance and orally defending that evaluation.
Prereq: 2200.01 (200), 2221 (201), or 2300H (200H), or permission of instructor. Not open to students with credit for 301.

3306 Introduction to Poultry Science and Evaluation U 2

This course will provide students the opportunity to learn about the principles of poultry science, the evaluation of standard breeds of chickens, and the evaluation of poultry meat and egg products. In addition, the course will cover practical and safe handling techniques of live poultry.

Prereq: Soph standing or above, or permission of instructor.

3307 Dairy Cattle Selection and Evaluation U 2

Use of functional type traits in evaluation and selection of dairy cattle.

Prereq: Soph standing or above, or permission of instructor. Not open to students with credit for 207.

3400 Management Intensive Grazing U 2

Application of scientific principles of plant growth, animal nutrition and behavior to manage grazing systems for profitable, sustainable livestock enterprises.

3488 Professional Development in Animal Sciences U 1 - 2

Participation in structured co-curricular programs leading to professional development (e.g. Academic Quadrathlon, Livestock Selection and Evaluation Teams, etc.).

Prereq: CPHR 2.0 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

3500 Professional Networking in Animal Sciences U 2

Professional networking and exposure to the breadth of the animal industries in Ohio and the potential for career development.

3600 Global Food and Agriculture U 3

The integration of food, agriculture, environment, resources, technology, culture, and trade on a global scale.

Prereq: Not open to students with credit for 360.

3600E Global Food and Agriculture U 3

The integration of food, agriculture, environment, resources, technology, culture, and trade on a global scale.

Prereq: Honors standing. Not open to students with credit for 360 or 360E.

3700 Animal Research Methods Laboratory U 2

Exploring research techniques associated with food animal tissues such as quantifying, separating and identifying proteins, fatty acids and carbohydrates.

Prereq: 3140 (310), 3140H (310H), or MeatSci 3110 (AnimSci 355.01), or permission of instructor.

3797.01 Equine Studies in Europe U 3

The study abroad experience will allow the students to be surrounded with a different culture, geography, community/government infrastructure, and history to directly compare how those aspects shape and impact the equine industry in that society.

Prereq: 2200.01, 2221, or 2300H. Prereq or concur: 2400.01. Repeatable to a maximum of 6 cr hrs.

3797.03 Human and Animal Interactions Study Abroad U 3

Experience the beliefs and views of the culture in destination countries on the use and involvements of animals as part of their daily lives.

Prereq or concur: 2400.05. Repeatable to a maximum of 9 cr hrs.

3797.04 Scotland's Ruminants - Education Abroad U 3

Second course in a two-course series (2400.04 & 3797.04) designed to give students an appreciation for the heritage, production, health and well-being of Scotland's ruminant species and explore how world history, government, geography, and infrastructure can impact the management of animals within the Scottish society.

Concur: 2400.04.

3797.07 Dairy Industry Outside the U.S. U 3

Increase the understanding of undergraduate students to the global nature of the dairy industry, comparing the demographics, cultural and economic forces, and natural resource availability on dairy farming and milk processing in a global setting.

Prereq or concur: 2400.07.

4001 Equine Production and Management U 4

Application of scientific principles and best management practices in the areas of anatomy, physiology, genetics, reproduction, nutrition and health to the production of horses.

Prereq: 3130 or 3131. Not open to students with credit for 541.

4002.01 Beef Cattle Production and Management U 3

The application of science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of beef cattle.

Prereq: 3130, and 3140 or 3140E, and 3150. Prereq or concur: 3160, 3170, and 3200.

4002.02 Beef Cattle Production Lab U 1

Hands-on application of the science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of beef cattle.

Concur: 4002.01.

4003.01 Swine Production

U 3

Application of science and basic principles of nutrition, physiology, genetics, health, economics, meats, and housing in integrated management systems for modern swine production.

Prereq: 3130 and 3140; or 3140E and 3150. Prereq or concr: 3160, 3170, and 3200.

4003.02 Swine Production Lab

U 1

Hands-on application of scientific and basic principles of nutrition, genetics, physiology, health, economics, meat products and housing in integrated management systems for modern swine production.

Concr: 4003.01.

4004.01 Small Ruminant and Pseudo Ruminant (Sheep, Goat, Llama, Alpaca, & Deer) Production and Management U 3

Application of science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of small ruminants.

Prereq: 3130, and 3140 or 3140E, and 3150. Prereq or concr: 3160, 3170, and 3200.

4004.02 Small Ruminant Production Lab

U 1

Hands-on application of the science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of small ruminants.

Concr: 4004.01.

4005 Companion Animal Biology and Behavior U 4

Anatomy, genetics, nutrition, physiology and behavior of dogs and cats. Human-animal companion relationships.

Prereq: 3130 (330), and 3140 (310) or 3140H (310H), and 3150 (320). Prereq or concr: 3160 (318), 3170 (413), and 3200. Not open to students with credit for 545.

4006.01 Poultry and Avian Management

U 3

Describes classes of poultry and game birds, incubation, housing, anatomy, diseases, genetics and nutrition.

Prereq: 3130, and 3140 or 3140E, and 3150. Prereq or concr: 3160, 3170, and 3200.

4006.02 Poultry and Avian Management Lab

U 1

Hands-on application of nutrition, genetics, physiology, health, economics, products and housing in integrated management systems for the raising of chickens for market and egg production.

Concr: 4006.01.

4007 Dairy Herd Management

U 4

Application of scientific principles to practical herd management, analyses of alternatives and decision making.

Prereq: 2200.01, and 3130 (330) or 3147 (317). Not open to students with credit for 547.

4189 Field Experience or Field Work

U 3

Supervised career-related work experience where students are temporarily employed by an organization and put into practice the skills, techniques and knowledge that are important for success in the industry.

Prereq: 3130 (330), and 3140 (310) or 3140H (310H), and 3150 (320), and permission of instructor. Prereq or concr: 3160 (318), 3170 (413), and 3200. Repeatable to a maximum of 6 cr hrs.

4193 Individual Studies

U 1 - 3

Special assignments and advanced research; problems assigned after consultation with the instructor in charge.

Prereq: CPHR 2.5 or above, and permission of instructor. Not open to students with credit for 593. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4194 Group Studies

U 1 - 3

Special topics area group studies finally proposed for a specific semester by an animal science faculty member.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4400 Animal Welfare and Behavior in Livestock Industries

U 3

The study of animal welfare and behavior and resulting influences on livestock production systems.

Prereq: 3140 (310) or 3140H (310H), or permission of instructor.

4597 Contemporary Animal Use Issues

U 3

The historical, biological, ethical, nutritional and economic issues of using animals to meet human needs.

Prereq: Jr or Sr standing. Not open to students with credit for 597. GE cross-disciplinary seminar course.

4797 Study at a Foreign Institution

U 1 - 15

Study at a foreign institution.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 15 completions.

4999 Research with Distinction

U 1 - 5

Conducting and reporting research with Distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.

Prereq: CPHR 3.0 overall, and GPA 3.0 or above in major, and permission of project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

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4999H	Honors Research with Distinction	U	1 - 5			
	Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.					
	Prereq: Honors standing, and FAES 4590.01H (590H), and CPHR 3.4 overall, and GPA 3.4 in major, and permission of honors project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.					
5000	Human Dimension in Animal Sciences	U G	3			
	Examines how humans have and continue to influence the field of Animal Sciences. Students will gain a perspective on both individual and societal actions and reactions to aspects of animal production for human consumption. Topics will include, but will not be limited to: attitudes, beliefs, values, and value orientations.					
5031	Ruminant Nutrition	U G	3			
	Principles of ruminant nutrition: nutrients, metabolism and physiology. Includes computer formulations and feeding strategies for nutritional management of ruminants.					
	Prereq: 3130 (330), or Grad standing. Not open to students with credit for 630.01.					
5032	Non-Ruminant Nutrition	U G	3			
	Principles of nonruminant nutrition: nutrients, metabolism and physiology. Includes practical feeding strategies for nonruminant animals.					
	Prereq: 3130 (330), or Grad standing. Not open to students with credit for 630.02.					
5033	Feeding Management and Records Analysis for Dairy Cattle	U G	3			
	Stimulates student awareness of unique nutrient metabolism systems and strategies that have evolved to meet nutrient requirements to support various animal production situations.					
	Prereq: 3130 (330), or Grad standing, or permission of instructor. Not open to students with credit for 630.03.					
5067	Physiology of Lactation	U G	2			
	The physiological, endocrine, nutritional, and environmental factors influencing the synthesis and ejection of milk.					
	Prereq: 3147 (317), or Grad standing, or permission of instructor. Not open to students with credit for 617.					
5070	Nutritional Immunology in Animal Systems	U G	3			
	Principles of the role of nutrients in modifying the immune responses of animals and nutrient contributions toward animal health and well-being.					
	Prereq: 3130 (330) or HumnNtr 2310 (310), or Grad standing. Not open to students with credit for 638.					
5100	Advanced Growth and Development	U G	3			
	A molecular developmental approach to the study of tissue growth, structure, and function in animals and humans.					
	Prereq: 9 cr hrs in 3000-level or above AnimSci course, and Jr standing or above, or Grad standing. Not open to students with credit for 400 or 618.					
5131	Application of Nutritional Principles to Ruminant Production Systems	U G	3			
	Principles of ruminant production, health, ruminant digestion, metabolism, physiology, nutrient requirements, behavior, growth and lactation in the production of meat and milk from ruminants.					
	Prereq: 4002, 4004, or 4007; or Grad standing; or permission of instructor.					
5310	Auditing Animal Production and Processing Facilities	U G	2			
	Introduces multiple types of auditing tools currently used by the industry to evaluate best management practices and animal welfare in the production and processing of various food animal species.					
	Prereq: 3110 or MeatSci 3110. Cross-listed in MeatSci.					
5400.01	Southern African Animals: I	U G	2			
	First in a two part series covering the physiology, behavior, and human interactions with various animals found in Southern Africa, establishing an appreciation of the daily struggles of animals and people in this geographic area.					
5400.02	Southern African Animals: II	U G	2			
	Second of a two-part series covering the physiology, behavior, and human interactions with various animals found in Southern Africa, establishing an appreciation of the daily struggles of animals and people in this geographic area.					
5410	Food Animal Production and Processing Industry Tour	U G	2			
	Includes travel to food animal production and processing facilities for students to gain first hand knowledge in commercial food animal production and processing.					
	Prereq: 3110 or MeatSci 3110. Cross-listed in MeatSci.					
5530	Comparative Animal Nutrient Metabolism	U G	3			
	Principles of nutrient metabolism as influenced by anatomical evolution and diet selection. Includes comprehensive discussions of nutrient handling in domesticated, captive and wild animal populations.					
	Prereq: 3130 (330) or HumnNtr 2310 (310), and Biochem 4511 (511).					
5551	Equine Assisted Activities and Therapies	U G	2			
	A variety of approaches, therapeutic settings and client populations will be addressed with an emphasis on equine behavior and body language. Students will gain experience in the development and practical application of an equine assisted therapy program.					
5797.01	Welfare of Agricultural and Recreational Animals	U G	3			
	This course is part of the long-term study abroad program in Australia. It investigates the role of animal welfare in production and recreational animals and how animal welfare issues will impact the future of global food animal agriculture.					
	Prereq: 3130 (330), and 3140 (310) or 3140H (310H), and 3150 (320), and permission of instructor. Not open to students with credit for 697.01.					
5797.02	Animal Production Systems in Diverse Environments in Australia	U G	3			
	Part of the long-term study abroad program in Australia. It will investigate animal production systems including: comparing production practices, economic issues and environmental constraints between Australia and the United States.					
	Prereq: 3130 (330), and 3140 (310) or 3140H (310H), and 3150 (320), and permission of instructor. Not open to students with credit for 697.02.					
5797.03	History, Culture and Economies of Australia	U G	3			
	Introduces students to key social, political and economic issues that have shaped Australia to its contemporary identity and to investigate issues of exploration, economic development, social and community standards and processes.					
	Prereq: Permission of instructor.					
5797.05	Exotic Animal Behavior and Welfare	U G	3			
	Exposees students to behavior, welfare, and health conditions of food production and exotic animals found in South Africa. This is a short-term study abroad course that will include visits to a range of animal systems: intensive production, open-range, semi-contained, sanctuaries, and zoo settings. The class activities take place primarily in field settings.					
	Prereq: 5400.01.					
5810	Branded Meat Products	U G	4			
	Integration of multiple factors influencing value-added product development including: raw material quality and procurement, processing, packaging, distribution, and complexity of market development and current consumer trends in niche marketing.					
	Prereq: 3110, 355.01, or MeatSci 3110; and completion of a second writing course. Not open to students with credit for 555.03 or MeatSci 5810. Cross-listed in MeatSci.					
6000	Introduction to Graduate Studies in Animal Sciences	G	1			
	An introduction to the Animal Sciences discipline and the scholarly activities required to pursue a graduate studies in the field.					
	Prereq: Grad standing.					
6060	Advanced Reproductive Physiology	G	3			
	Recent advances in research in mammalian reproduction.					
	Prereq: 3160 (318), or Grad standing, or permission of instructor. Not open to students with credit for 610 or 710.					
6090	Anaerobic Microbiology	G	3			
	Provides an understanding of fundamentals of anaerobic microbiology and applications to animal and human nutrition and bioenergy production.					
	Prereq: Microb 4100 or 4000, and Biochem 4511; or permission of instructor. Not open to students with credit for 690.					
6100	Research Methods and Writing in Animal Sciences	G	1			
	Emphasis on the literature of science, design of a problem, methods and techniques for investigation and scientific writing.					
	Prereq: Grad standing.					
6193	Individual Studies	G	1 - 6			
	Special assignments and advanced research problems assigned.					
	Repeatable to a maximum of 10 cr hrs or 6 completions. This course is graded S/U.					
6194	Group Studies	G	1 - 3			
	Special topics area group studies.					
	Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.					
7000	Applied Biometrics	G	3			
	Study methods used in the quantification of biological processes and the integration of research results and knowledge into quantitative methods.					
	Prereq: Stat 5301 (528 and 529), or equiv. Not open to students with credit for 668.					
7030	Advanced Topics in Ruminant Nutrition	G	3			
	Advanced aspects of ruminant digestion, microbial fermentation, absorption, metabolism, physiology and the integration of these processes into rationing approaches will be emphasized, building on principles of ruminant nutrition from past courses.					
	Prereq: 5031 (630.01) or equiv, or Biochem 4511 (511), or permission of instructor. Not open to students with credit for 730.					
7040	Physiology of Domestic Animals	G	3			
	Provides students with an advanced understanding of domestic animal physiology.					
	Prereq: Grad standing, or permission of instructor.					
7100	Animal Growth and Development	G	3			
	Addresses the advanced principles of animal growth and development as the food animal industries continue to emphasize more efficient growth rates and acceptable meat quality.					
	Specific information will be focused on the structure and function of muscle, bone, and adipose tissues, and the interaction among nutrition, hormones, exercise, heredity and disease.					
	Prereq: 3100, 3105, or permission of instructor.					

Animal Sciences 21

7620 Food and Nutritional Toxicology

G 2

Overview of absorption, metabolism and excretion of xenobiotics, allergenic and toxic constituents, role of diet in mutagenesis and carcinogenesis, food processing induced toxins and procedures, and laws and regulation of safety assessment of foods.

Prereq: 7761 and 7762, or HumnNtr 7761 and 7762, or FdScTe 7761 and 762, and 6 cr hrs taken at the Grad level in Physiology; or permission of instructor. Not open to students with credit for 830.09, HumnNtr 7620 (830.09), or FdScTe 7620 (830.09).

7640 Food Carbohydrates and Proteins

G 3

Chemical, physical, biological and functional properties of food carbohydrates and proteins and their interactions with other food components.

Prereq: FdScTe 5600 (605) and Biochem 4511 (511), or permission of instructor. Not open to students with credit for FdScTe 822 or 823. Cross-listed in FdScTe.

7724 Contemporary Issues in Animal Welfare

G 1

Give students the opportunity to explore current issues in animal welfare through reading, presentations and discussion.

Prereq: 4400 or VMColl 6565, or permission of instructor. Cross-listed in VetPrev.

7730 Endocrinology

G 4

Functional principles of the major endocrine systems in vertebrates and preparation for research in this area.

Prereq: Biochem 4511, or permission of instructor. Not open to students with credit for Kinesio 7730. Cross-listed in Kinesio.

7761 Macronutrient Metabolism

G 4

In-depth treatment of digestion, absorption, transport, and utilization of dietary carbohydrates and fat for energy production and fat deposition in humans and other higher animals.

Prereq: 3130 (330), HumnNtr 2310 (310), or Biochem 4511 (511). Not open to students with credit for 761, 762, HumnNtr 7761 (761 and 762), or FdScTe 7761 (761 and 762). Cross-listed in FdScTe and HumnNtr.

7762 Vitamin and Mineral Metabolism

G 4

Biochemical functions, absorptions, transport, utilization, interrelationships and nutritional requirements of selective vitamins and minerals in higher vertebrates and humans.

Prereq: Coursework in Biochemistry or Vertebrate Physiology. Not open to students with credit for FdScTe 7762 or HumnNtr 7762. Cross-listed in FdScTe or HumnNtr.

7789 Nutrition Research Design

G 1

Aspects of research design including both ethical considerations as well as how to select appropriate experimental models.

Prereq: Grad standing. Not open to students with credit for HumnNtr 7789. Cross-listed in HumnNtr.

7899 Oral Research Communication

G 1

Critical analysis of the scientific literature and demonstration of effective oral presentation skills tailored to the target audience, with use of information technologies as needed.

Prereq: Grad standing. Not open to students with credit for FdScTe 7899 or HumnNtr 7899 (895). Cross-listed in FdScTe and HumnNtr.

8000 Scientific Philosophy and the Work of Scientists

G 1

Historical and future perspectives of research in the animal sciences, role of theory and evidence in developing scientific knowledge, presentations and reports.

Prereq: Not open to students with credit for 860.

8193 Individual Studies

G 1 - 10

Exploratory research and advanced assignments.

Prereq: Grad standing, and permission of instructor. This course is graded S/U.

8780 Molecular Biology Techniques

G 3

Demonstrates the applications of molecular biology by involving the students in a real time research project. Students will perform experiments using molecular biology techniques in the context of a muscle protein functionality study.

8801 Macronutrients - Lipids and Energy Balance

G 3

Discussion of lipids as storage molecules used for energy and metabolism modulation as well as how they influence energy balance conditions such as obesity, cachexia, weight loss and weight gain.

Prereq: 7761 (761), FdScTe 7761 (761), or HumnNtr 7761 (761). Not open to students with credit for 830.01, FdScTe 8801 (830.01), or HumnNtr 8801 (830.01). Cross-listed in FdScTe and HumnNtr.

8802 Advanced Micronutrient Metabolism

G 3

Comparative study of the regulation of micronutrient status and its influence on physiological and molecular events, including nuclear receptor activity and transcription.

Prereq: 7762 (762), FdScTe 7762 (762), or HumnNtr 7762 (762). Not open to students with credit for 830.02, FdScTe 8802 (830.02), or HumnNtr 8802 (830.02). Cross-listed in FdScTe and HumnNtr.

8833 Diet, Nutrition and Cancer

G 3

Epidemiological, clinical and basic perspective of how diet and nutrition practices predict for cancer risk.

Prereq: 7761 (761), FoodSci 7761 (761), or HumnNtr 7761 (761). Not open to students with credit for 830.12, HumnNtr 8833 (830.12), or FdScTe 8833 (830.12). Cross-listed in FdScTe and HumnNtr.

8834 Comprehensive Approach to Food Safety

G 2

A comprehensive overview of food safety challenges and solutions as experienced through the food chain from farm to consumers. Demonstration of food safety system from cellular aspects though public policy.

Prereq: Microbiol 509 or equiv. Not open to students with credit for 830.10, FdScTe 8834 (830.10), or HumnNtr 8834 (830.10). Cross-listed in FdScTe and HumnNtr.

8835 Grantsmanship

G 1

Capstone course for the OSUN PhD program will train students on grantsmanship skills.

Prereq: Grad standing. Not open to students with credit for FdScTe 8835 or HumnNtr 8835. Cross-listed in FdScTe and HumnNtr.

8836 Advanced Nutritional Genomics

G 3

The primary goal of the course is to stimulate critical thinking and discussion among graduate students about current research findings in the areas of genomics, proteomics and metabolomics as they apply to studies in the nutritional sciences.

Prereq: 7761 and 7762; or HumnNtr 7761 and 7762. Cross-listed in HumnNtr.

8880 Interdisciplinary Seminar

G 1

Discussions of current animal science research.

Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8881 General Seminar

G 1

Discussions of current animal science research.

Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

8882 Nutrition Seminar

G 1

Discussions of current nutrition research.

Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8883 Physiology Seminar

G 1

Discussion of current animal physiology research.

Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8884 Genetics Seminar

G 1

Discussions of current genetic research.

Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8885 Animal Products Seminar

G 1

Discussions of current animal production and animal products research.

Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8888 OSUN Research Seminar

G 1

Recent advances in nutrition science are presented by locally, nationally and internationally recognized scientists.

Prereq: Grad standing. Not open to students with credit for FdScTe 8888 or HumnNtr 8888. Repeatable to a maximum of 5 cr hrs. This course is graded S/U. Cross-listed in FdScTe and HumnNtr.

8997 Graduate Writing Experience in Animal Sciences: Non-Thesis

G 3

Writing for non-thesis MS students in Animal Sciences.

Prereq: Grad standing, and permission of instructor. Only available to students obtaining a non-thesis MAS in Animal Sciences. This course is graded S/U.

8998 Thesis Research

G 1 - 15

Research for thesis purposes only.

Prereq: Grad standing in AnimSci, or permission of instructor. Repeatable. This course is graded S/U.

8999 Research

G 1 - 15

Research for dissertation purposes only.

Prereq: Grad standing in AnimSci, or permission of instructor. Repeatable. This course is graded S/U.

Animal Sciences Technology

1201.01T Exploring Equine Careers and Industry

U ½

Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

1201.02T Exploring Livestock Careers and Industry

U ½

Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

1201.07T Exploring Dairy Careers and Industry

U ½

Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

22 Animal Sciences Technology

2189.01T Horse Practicum	U 1	2582.02T Food Animal Resource Management II - Beef	U 1
Practical experience in supervised equine laboratories with emphasis on developing and improving competencies related to classroom objectives and horse industry standards. A grade of C or better required to meet graduation requirements. Repeatable to a maximum of 4 cr hrs.		Supervised practical experience in beef production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving leadership characteristics, beef production and management skills and competency. A grade of C or better required to meet graduation requirements. Prereq: 2510.02T. Repeatable to a maximum of 4 cr hrs.	
2189.07T Practicum in Dairy Cattle Production	U 1 - 2	2582.03T Food Animal Resource Management II - Swine	U 1
Supervised practical experience in dairy cattle production at the Ohio State ATI dairy farm with emphasis on developing and improving dairy cattle production skills and competencies. A grade of C or better required to meet graduation requirements. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.		Supervised practical experience in swine production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving leadership characteristics, swine production and management skills and competency. A grade of C or better required to meet graduation requirements. Prereq: 2510.03T. Repeatable to a maximum of 4 cr hrs.	
2189.08T Practicum in Livestock Production and Management	U 1 - 2	2582.04T Food Animal Resource Management II - Small Ruminants	U 1
Supervised practical experience in livestock production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving livestock production skills and competency. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.		Supervised practical experience in small ruminant production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving leadership characteristics, small ruminant production and management skills and competency. A grade of C or better required to meet graduation requirements. Prereq: 2510.04T. Repeatable to a maximum of 4 cr hrs.	
2190.01T Leadership in Equine Operations Management	U 1	2603T Swine Production and Management	U 3
Practical, supervised leadership experience in equine facility management with emphasis on herd and facility operations and personnel supervision. A grade of C or better required to meet graduation requirements. Prerequisite: Completion of tractor/mobile equipment safety certification process required. Prereq: 2189.01T (289.04T) with a grade of C or above; 2201T (211T). Repeatable to a maximum of 2 cr hrs.		A study of the basic principles of production and management for contemporary commercial swine production enterprises. 1 to 3 day field trips, including weekends, may be required. Students will pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition and fees. Prereq: Not open to students with credit for 222.02T. This course is available for EM credit.	
2193T Individual Studies	U 1 - 3	2707T Dairy Cattle Presentation	U 1
Designed to give an individual student an opportunity to pursue special studies not offered in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		Principles and skills practiced in fitting, presenting, and merchandising dairy cattle. Course offered in even numbered years. Field trips, including weekends, may be required. Students will pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition and fees. Prereq: Not open to students with credit for 206T. This course is available for EM credit.	
2194T Group Studies	U 1 - 3	2787T Applied Dairy Herd Practices and Management	U 1
Designed to give groups of students an opportunity to pursue special studies not offered in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.		Experience in applying, directing, and evaluating dairy herd management procedures and practices at the Ohio State ATI dairy farm. A grade of C or better required to meet graduation requirements. Completion of the Equipment Training and Certification process and a driver background check required. Prereq: Soph standing; permission of instructor. Repeatable to a maximum of 3 cr hrs.	
2200.02T Introduction to Animal Sciences Laboratory	U 1	2797T Dairy Industry Seminar and Experience	U 1
Laboratory application of basic animal husbandry practices in the various livestock and related industries. Prereq or concur: 2200T or AnimSci 2200.01. This course is available for EM credit.		Current trends, issues, technology, and developments in the dairy industry; emphasis on developing lifelong learning skills through evaluation of science/trade journals, participation in professional meetings, and visits to innovative businesses. 1 to 3 day field trips, including weekends, may be required. Students pay field trip costs of lodging, meals, etc. above Ohio State tuition and fees. Prereq: Permission of instructor. Prereq or concur: English 1110.01 or 1110.03. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.	
2200T Introduction to Animal Sciences	U 3	2801T Horsemanship and Equitation	U 3
Introduction to animal agriculture; its purpose, terms, products, problems, and basic management principles. Prereq: Not open to students with credit for 210T or AnimSci 200. This course is available for EM credit.		Intermediate course in equitation with emphasis on continued development of balanced seat riding skills that incorporate natural horsemanship concepts into mounted work. Students should have riding proficiency at walk, trot, and canter. Prereq: Permission of instructor. Concur: 2189.01T or 2190.01T. Not open to students with credit for 213T. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	
2201T Introduction to Horse Science	U 3	2811T Schooling and Training the Riding Horse	U 3
Fundamental survey of the development of domestic horses and breeds, terminology, behavior, uses, conformation, management and safe horse handling. Prereq: Not open to students with credit for 211T. This course is available for EM credit.		Applied techniques of schooling and training riding horses with emphasis on producing supple, willing and knowledgeable mounts. Prereq: 2201T (211T), 2801T (267T), permission of instructor. Concur: 2189.01T or 2190.01T. Not open to students with credit for 268.01T.	
2202T Introduction to Beef and Small Ruminant Production	U 3	3101T Equine Marketing and Facility Management	U 4
Overview of beef cattle, sheep, goat, and other small ruminant species industries with regard to production and marketing; focus on ruminant livestock needs and the opportunities involved in their production. Prereq: Not open to students with credit for 222.01T. This course is available for EM credit.		A study of the principles of safe and efficient equine facility design and the basic factors of managing and marketing horses and horse facilities. Prereq: 2201T and 2189.01T. This course is available for EM credit.	
2400T Sustainable Animal Systems and Marketing	U 3	3130T Principles of Animal Nutrition	U 2
Introduction to principles, practices, and marketing of animal products in a sustainable management system. Prereq: CrpSoil 2200T (220T). This course is available for EM credit.		A study of the nutrients and the basic principles involved in the feeding of domestic animals, including the characteristics/composition of feedstuffs and factors that affect feed utilization. Recommended prereq: 2200T or 3140T; GenBiol 1200T (120T) or Biology 1113 (113). Prereq: Not open to students with credit for 214T or 240T. This course is available for EM credit.	
2510.02T Food Animal Resource Management I - Beef	U 1	3131T Equine Feeding and Nutrition	U 3
Supervised practical experience in beef production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving beef production and management skills and competency. A grade of C or better required to meet graduation requirements. Repeatable to a maximum of 4 cr hrs.		A study of the nutritional needs of equids and of the principles and practices involved in providing balanced rations to different nutritional classes of equids. Prereq: 2200T or 2201T; GenMath 1040T or Math 1075 or Math placement level R or higher. This course is available for EM credit.	
2510.03T Food Animal Resource Management I - Swine	U 1		
Supervised practical experience in swine production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving swine production and management skills and competency. A grade of C or better required to meet graduation requirements. Repeatable to a maximum of 4 cr hrs.			
2510.04T Food Animal Resource Management I - Small Ruminants	U 1		
Supervised practical experience in small ruminant production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving small ruminant production and management skills and competency. A grade of C or better required to meet graduation requirements. Repeatable to a maximum of 4 cr hrs.			

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3132T Ruminant Feeds and Feeding

U 3

Principles of beef cattle and small ruminant nutrient requirements and feeding management with emphasis on the critical evaluation and formulation of rations in current management situations.

Prereq: 2200T or 2202T; GenMath 1040T or Math 1075 or Math placement level R or higher. This course is available for EM credit.

3133T Practical Swine Feeding

U 3

A study of the basic nutritional requirements and feeding management of swine, with an emphasis on evaluation and formulation of common feedstuffs and ration balancing.

Prereq: 2200T or 2603T; GenMath 1040T or Math 1075 or Math Placement Level R or higher. This course is available for EM credit.

3137T Dairy Cattle Feeding Management

U 3

Principles of dairy cattle feeding management with emphasis on the critical evaluation and formulation of rations in current management situations.

Prereq: GenMath 1040T or Math 1075 or Math placement level R or higher. This course is available for EM credit.

3140T Animal Anatomy and Physiology

U 4

An introductory study of the structure and functions of the various organ systems of domestic animals. Recommended prereq: GenBiol 1200T (120T) or Biology 1113 (113).

Prereq: Not open to students with credit for 221T. This course is available for EM credit.

3150T Livestock Genetic Improvement

U 3

Principles of inheritance and the genetic improvement of livestock through cellular, qualitative, and population genetics; emphasizing breeding values, selection, and mating systems.

Prereq: GenBiol 1200T or Biology 1113; GenMath 1040T or Math 1050 or Math placement level R or higher. This course is available for EM credit.

3151T Horse Breeding and Selection

U 3

Principles of equine breeding management with emphasis on applied equine reproductive physiology, breeding methods, breeding stock management and basic genetics and selection. Recommended prereq: 3140T (221T) or GenBiol 1200T (120T).

Prereq: 2201T (211T). Not open to students with credit for 266T. This course is available for EM credit.

3157T Dairy Cattle Genetic Improvement

U 3

Principles of inheritance and the genetic improvement of dairy cattle through cellular, qualitative, and population genetics; emphasizing breeding values, selection, and mating systems.

Prereq: GenBiol 1200T or Biology 1113; GenMath 1040T or Math 1050 or Math placement level R or higher. This course is available for EM credit.

3161T Applied Equine Reproductive Management

U 2

Advanced course in equine reproductive management with emphasis on understanding and improving equine infertility; applications of current research; and development of technical skills.

Prereq: 2201T (211T). Prereq or concur: 3140T (266T). Concur: 2189.01T or 2190.01T. Not open to students with credit for 269T.

3167T Dairy Cattle Milking and Reproductive Management

U 4

A study of recommended dairy cattle milking and reproductive management practices, based on the anatomy and physiology of the systems.

Prereq: Not open to students with credit for 201T and 203T. This course is available for EM credit.

3170T Principles of Livestock Health

U 3

A basic introduction to the relationship between animal health and performance. Topics include: immunology, sanitation, disease etiology, and disease prevention, symptoms, and treatment.

Prereq: 2200T or 2202T or 2603T. This course is available for EM credit.

3171T Horse Health and Disease

U 3

Study of equine disease, lameness, and emergency first aid with emphasis on preventative health care and the manager's role with the veterinary professional.

Prereq: 2200T or 2201T. This course is available for EM credit.

3177T Dairy Cattle Health Management

U 4

A study of immunology and dairy cattle health management, including disease prevention, identification, and treatment of common diseases influencing the performance of dairy cattle.

Prereq: Not open to students with credit for 201T, 203T, and 252T. This course is available for EM credit.

3191.01T Equine Industry Internship Experience

U 1 - 3

Employment in the equine industry structured to provide varied occupational experiences: supervised by an industry employer and coordinated by faculty; comprehensive report required. A grade of C or better required to meet graduation requirements.

Prereq: 2189.01T (289.04T), 2201T (211T), CPHR 2.0 or above, Soph standing, and permission of instructor. Not open to students with credit for 290.04T. Repeatable to a maximum of 4 cr hrs or 3 completions.

3191.02T Beef Industry Internship

U 2 - 3

Employment in the beef industry structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty; comprehensive report required. A grade of C or better is required to meet graduation requirements.

Prereq: 2202T, 2510.02T; CPHR 2.0 or above; permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

3191.03T Swine Industry Internship

U 2 - 3

Employment in swine industry structured to provide varied occupational experiences; supervised by an industry employer & coordinated by faculty; written comprehensive report required. A grade of C or better is required to meet graduation requirements.

Prereq: 2603T, 2510.03T; CPHR 2.0 or above; permission of instructor. Not open to students with credit for 290.02T. Repeatable to a maximum of 6 cr hrs or 3 completions.

3191.04T Small Ruminant Industry Internship

U 2 - 3

Employment in a small ruminant industry structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty; comprehensive report required. A grade of C or better required to meet graduation requirements.

Prereq: 2202T, 2510.04T; CPHR 2.0 or above; permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

3191.07T Dairy Industry Internship

U 2 - 3

Employment in the dairy industry structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty; comprehensive report required. A grade of C or better is required to meet graduation requirements.

Prereq: 3167T (201T and 203T), 3207T (202T), 3177T (252T); CPHR 2.0 or above; permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions.

3200T Livestock Selection and Evaluation

U 2

Principles of live animal selection and carcass evaluation of livestock.

Prereq: 2200T (210T) or 2202T (222.01T) or 2603T (222.02T) or 3140T (221T). Not open to students with credit for 223T.

3201T Horse Judging and Evaluation

U 2

Comparative evaluation of horse conformation by breed, assessment of performance in a variety of performance disciplines; development of tools for assessing and placing show horse classes.

Prereq: Not open to students with credit for 212T. This course is available for EM credit.

3207T Dairy Cattle Evaluation and Herd Records

U 2

Comparative evaluation of dairy cattle conformation and introduction to herd performance records; emphasis on breed characteristics, functional type, lifetime profitability, and record data collection, analysis, and use.

Prereq: Not open to students with credit for 201T and 202T. This course is available for EM credit.

3402T Beef Production and Management

U 4

The application of science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of beef cattle in breeding and feeding production programs. 1 to 3 day field trips, including weekends, may be required. Students will pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition and fees.

Recommended prerequisites: 2582.02T, 3130T, 3132T, 3140T, 3150T, and 3170T.

Prereq: 2202T and 2510.02T.

3403T Swine Production and Management II

U 4

An advanced study of the principles of managing a commercial swine enterprise. Coordination of production programs, evaluating economic performance, and a survey of contemporary swine housing and equipment options. 1 to 3 day field trips, including weekends, may be required. Students will pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition & fees.

Prereq: 2603T, 3140T, 3170T. Prereq or concur: 3133T, 3150T. Not open to students with credit for 2613T. This course is available for EM credit.

3404T Small Ruminant Production and Management

U 4

The application of science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of sheep, goats, and other small ruminants. One to 3 day field trips, including weekends, may be required. Students will pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition & fees. Recommended prerequisites: 2582.04T, 3130T, 3132T, 3140T, 3150T, 3170T.

Prereq: 2202T and 2510.04T.

3407T Dairy Cattle Facilities, Environment, and Equipment

U 3

Design and management of dairy cattle facilities, environment, and associated equipment; emphasizing milking equipment and parlors, animal housing, environmental control, waste management, feeding systems, and utilities. 1 to 3 day field trips, including weekends, may be required. Students pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition & fees.

Prereq: GenMath 1040T or Math 1050 or Math placement level R or higher. Prereq or concur: 3167T. This course is available for EM credit.

3800T Principles of Farm Business Management

U 4

A study of economics and management principles involved in planning, organizing, operating, and administering a farm business; emphasis placed on developing a business plan and problem solving.

Prereq: AEDEcon 2105 (BusTec 101T or 102T). Prereq or concur: BusTec 1151T (151T) or AEDEcon 2001 (200). Not open to students with credit for BusTec 240T. This course is available for EM credit. Cross-listed in CrpSoil.

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3887T Integrated Dairy Farm Business Management U 4

A study of dairy farm business management combining business, financial, and animal management principles, practices, and strategies; emphasis placed on developing a business plan and problem solving.

Prereq: AEDEcon 2001 or BusTec 1151T; Soph standing; minimum of 10 cr hrs in AnmlTec. This course is available for EM credit.

Anthropology

1100 Introduction to Anthropology U 3

Introductory exploration of what it means to be human. Course highlights the anthropological sub disciplines of archaeology, biological anthropology, cultural anthropology, and linguistic anthropology.

GE cultures and ideas and soc sci orgs and polities and diversity global studies course.

2194 Group Studies U 1 - 3

Designed to give groups of students an opportunity to pursue special studies in topics not otherwise offered.

Repeatable.

2200 Introduction to Physical Anthropology U 4

A scientific examination of humans as a biological and cultural organism based on primate evolution from living and fossil evidence; evolutionary theory and population adaptability. This course includes laboratory activities.

Prereq: Biology 1101 (101) or equiv. Not open to students with credit for 200. GE nat sci bio course.

2200H Introduction to Physical Anthropology U 4

A scientific examination of humans as a biological and cultural organism based on primate evolution from living and fossil evidence; evolutionary theory and population adaptability. This course includes laboratory activities.

Prereq: Honors standing, and Biology 1101 (101) or equiv; or Honors standing, and permission of department or instructor; or Biology 1101 (101) or equiv, and permission of department of instructor. Not open to students with credit for 2200 (200) or 200H. GE nat sci bio course.

2201 Introduction to Archaeology U 3

World prehistory from the origin of human culture through the development of civilization illustrated by selected examples; archaeological field method; concepts of analysis and interpretation.

Prereq: Not open to students with credit for 2201H (201H) or 201. GE soc sci indivs and groups and diversity global studies course.

2201H Introduction to Archaeology U 3

World prehistory from the origin of human culture through the development of civilization illustrated by selected examples; archaeological field method; concepts of analysis and interpretation.

Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for 2201 (201) or 201H. GE soc sci indivs and groups and diversity global studies course.

2202 Peoples and Cultures: An Introduction to Cultural Anthropology U 3

Comparative survey of traditional and contemporary peoples in the several world culture regions; culture concepts; study of selected topics.

Prereq: Not open to students with credit for 202. GE soc sci indivs and groups and diversity global studies course.

2202H Peoples and Cultures: An Introduction to Cultural Anthropology U 3

Comparative survey of traditional and contemporary peoples in the several world culture regions; culture concepts; study of selected topics.

Prereq: Honors standing, or permission of instructor or department. Not open to students with credit for 2202 (202) or 202H. GE soc sci indivs and groups and diversity global studies course.

2241 The Middle East Close-Up: People, Cultures, Societies U 3

Introduction to the culture of the Middle East as lived in its villages, towns, and cities.

Prereq: Not open to students with credit for 241 or NELC 2241 (241). GE cultures and ideas and diversity global studies course. Cross-listed in NELC.

3191 Internship in Anthropology U 1 - 6

An opportunity for work experience and on-the-job learning in anthropology-related employment.

Prereq: 2.5 CPHR or above, and Soph, Jr, or Sr standing, and enrollment in Anthropology major. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

3211 Introduction to Forensic Science U 3

This team-taught interdisciplinary course will give students an introduction to the major concepts, issues and techniques used in forensic science. It is designed to expose students to different disciplines and career paths within forensic science.

Prereq: Not open to students with credit for ArtsSci 211.

3300 Human Origins U 3

The search for human origins through a reconstruction of the human and non-human primate fossil records of the last 60 million years; emphasis on human skeletal, behavioral, and social patterns.

Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 300.

3301 Modern Human Physical Variation U 3

Survey of modern human biological diversity; examination of the underlying evolutionary and adaptive mechanisms responsible; exploration of the interplay between biology and behavior in adaptation.

Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 301.

3302 Introduction to Medical Anthropology U 3

Relationship of anthropology to the art and science of medicine.

Prereq: 2200 and 2202, or permission of instructor.

3304 The Living Primates U 3

Survey of the behavior, morphology and conservation of living primates; particular emphasis given to field studies and the position of humans within the Order Primates.

Prereq: Not open to students with credit for 304. GE nat sci bio course.

3305 Introduction to Forensic Anthropology U 3

An introduction to the field of forensic anthropology in which students will be introduced to basic methods used to analyze unidentified human skeletal remains.

Prereq: Not open to students with credit for 305.

3334 Zombies: The Anthropology of the Undead U 3

Students will understand how culture and social organization help us define the living, the dead and the undead in the contemporary and archaeological record, and how we create social categories that organize our world and our place.

3340 The Anthropology of Mental Health U 3

Provides an introduction to global mental health through the lens of medical anthropology. Students will gain a holistic understanding of prescient concerns in global mental health and the ways in which anthropology can contribute an understanding to the experience, diagnosis, treatment, and management of mental health issues by diverse populations.

GE diversity global studies course.

3350 Prehistoric Indians of the Ohio Valley U 3

The archaeology and cultural history of the Ohio Valley from the first human settlement to European colonization, emphasizing the Adena, Hopewell, and Ft Ancient traditions.

Prereq: 2201 (201), or permission of instructor. Not open to students with credit for 350.

3401 Fundamentals of Archaeology U 3

Introduction to basic archaeological theory and practice including fundamental field and laboratory, principles of survey, excavation, chronological analysis, typology, and palaeoethnography.

Prereq: 2201 (201), or permission of instructor. Not open to students with credit for 401.

3409 Primate Evolution U 3

Examination of the origin, radiation, and (in some cases) extinction of each primate clade including prosimians, New World monkeys, Old World monkeys, apes, and humans.

Prereq: Not open to students with credit for 409.

3411 Human Ecological Adaptations U 3

A study of the interactive relationships between humans and their environments, past and present, with a focus on human biology. EEOB 400 recommended.

Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 411.

3418 Regional Survey of the Anthropology of Africa U 3

Overview of anthropological studies of traditional African societies, with themes of European colonialism, kinship, social organization, economics, and politics.

Prereq: Not open to students with credit for 421.05.

3419 Latin American Cultures and Migration in Global Perspective U 3

An intensive ethnographic investigation of Latin American and Caribbean migration (Mexico, Ecuador, The Dominican Republic) including the history of migration; contemporary movement; and transnationalism.

GE soc sci orgs and polities course.

3420 Indians of North America U 3

Development of culture change in North American Indians.

Prereq: Not open to students with credit for 421.08. GE soc sci indivs and groups course.

3434 Archaeology of the Holy Land U 3

Challenges students to evaluate the cultural phenomena that are Bible and Qur'an in their historical context by studying a broad range of archaeological cultures in the periods during which the Bible and Qur'an came to be written texts. The course provides an introduction to the archaeology of periods and cultures 3500 BCE-700 CE in the Holy Land and its neighbors. GE cultures and ideas course.

3451 Archaeology of the Ancient Near East U 3

Archaeology of the Levant, Mesopotamia and Egypt from human origins through the age of pyramids and ziggurats.

Prereq: Not open to students with credit for 451.

3452 Archaeology of the Pacific Islands U 3

Introduces the prehistory of the Pacific Islands from an archaeological perspective. It emphasizes voyaging, colonization, and the emergence of cultural complexity.

Prereq: Not open to students with credit for 452.

Anthropology 25

3500 Primate Sexuality	U	3	5194 Group Studies	U G	1 - 12
An evolutionary approach to the diversity of mating systems, morphologies, processes, and behaviors among prosimians, monkeys, apes, and humans.			Designed to give groups of students an opportunity to pursue special studies in topics not otherwise offered.		
Prereq: 2200 (200). Not open to students with credit for 500.			Prereq: Permission of instructor. Repeatable.		
3504 Introduction to Anatomy	U	3 - 4	5600 Evolutionary Medicine	U G	3
Introduction to Anatomy.			Biomedical and biosocial influences on problems of human health throughout the world, focusing upon the evolutionary implications of those problems.		
Prereq: Not open to students with credit for 504.			Prereq: Not open to students with credit for 601.01.		
3554 Archaeology of North America	U	3	5601 The Anthropology of Sex, Drugs, and HIV	U G	3
Detailed survey of native American prehistory: survey of the archaeology and cultural history of North America.			Biocultural and sociocultural aspects of health in modern and prehistoric populations.		
Prereq: 2201 (201). Not open to students with credit for 553.04.			Prereq: Not open to students with credit for 601.02.		
3555 New World Prehistory: Ancient Maya Civilization	U	3	5602 Women's Health in Global Perspective	U G	3
Detailed survey of native American prehistory: recent archeological and epigraphic discoveries and examines the ancient Maya civilization of Mesoamerica.			A cross-cultural comparison of the political, economic, social, and biological issues surrounding women's health.		
Prereq: 2201 (201). Not open to students with credit for 553.04.			Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 601.04. GE diversity global studies course.		
3597.01 Crisis! An Anthropological Perspective of Global Issues	U	3	5603 Strategy of Archaeological Field Research	U G	3
Analysis of cultural conflict in developing nations resulting from rapid and extensive technological and social change.			Detailed examination of select topics concerning the recovery and analysis of archaeological data. Design of archaeological data recovery programs and their implementation through survey, excavation, and other methods.		
Prereq: Not open to students with credit for 4597.01 or 597.01. GE soc sci indvds and groups and diversity global studies and cross-disciplinary seminar course.			Prereq: 3401 (401). Not open to students with credit for 602.01.		
3597.02 Women, Culture, and Development	U	3	5604 Archaeological Laboratory Methods	U G	3
An analysis of the dramatic changes occurring in women's lives in response to development and modernization; developing and developed countries contrasted.			Practical experience in the laboratory analysis of archaeological materials with emphasis on stone, bone, and ceramic artifacts; preparation of reports on analytical procedures and results.		
Prereq: Not open to students with credit for 4597.02 or 597.02. GE soc sci indvds and groups and diversity global studies and cross-disciplinary seminar course.			Prereq: 3401 (401). Not open to students with credit for 602.02.		
3604 Intro to the Methods of Archaeological Science	U	3	5606 Who Owns the Past?	U G	3
Introduces students to the myriad of interdisciplinary techniques that allow us to understand the human condition. Reviewed methods and case studies include ancient DNA analysis, stable and radiogenic isotopes, zooarchaeology, paleoethnobotany, material science, remote sensing, etc. This course is taught at an introductory level for non-science majors. Anthro 2201 is suggested.			Examines key ethical and epistemological issues in archaeology, including changing cultural politics.		
3623 Environmental Anthropology	U	3	Prereq: 2201 (201) and 3401 (401). Not open to students with credit for 602.04.		
Theory and ethnographic examples of human-environment interactions, focusing on the role of culture and behavior in environmental adaptation.			5607 Human Osteology	U G	3
Prereq: 2202 (202) or equiv, or permission of instructor. Not open to students with credit for 5623 or 620.05.			Study of human skeletal anatomy.		
4525 History of Anthropological Theory	U	3	Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 603.01.		
Major theoretical viewpoints in anthropology seen in their historical context.			5608 Skeletal Biology	U G	3
Prereq: 2202 (202), or permission of instructor. Not open to students with credit for 525 or 3525.			A survey of bone biology, including histogenesis, histomorphology, and physiology of bone; topics include bone structure, growth and development, physiology, and anthropological applications.		
4998 Undergraduate Research in Anthropology	U	1 - 6	Prereq: 2200 (200) and 5607 (603.01), or permission of instructor. Not open to students with credit for 603.02.		
Undergraduate research in variable topics.			5609 Dental Anthropology	U G	3
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.			Evolutionary anthropology of human and non-human primate teeth.		
4998H Undergraduate Research in Anthropology- Honors	U	1 - 6	Prereq: 2200 (200) or equiv, or permission of instructor. Not open to students with credit for 5643 (603.03).		
Undergraduate research in variable topics.			5610 Bioarchaeology	U G	3
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.			Study of human remains from archaeological settings, with emphasis on relationship between biology, culture, health, and behavior.		
4999 Undergraduate Thesis Research	U	2 - 6	Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 603.04.		
Undergraduate thesis research.			5614 Ethnobotany	U G	3
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions. This course is graded S/U.			Introduction to the anthropological study of human interactions with the plant world.		
4999H Honors Thesis Research	U	2 - 6	Prereq: A course in AnthroP or PlntBio at the 2000 level or above, or permission of instructor. Not open to students with credit for 610.		
Honors Thesis Research.			5615 Evolutionary Perspectives on Human Behavior	U G	3
Prereq: Honors standing, and a grade of A in at least half of AnthroP courses taken, and an average of B in the remainder, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.			Advanced survey of contemporary evolutionary theories of human behavior and culture and their relevance to the broader discipline.		
5193.01 Individual Studies: Theory	U G	1 - 80	Prereq: 2200 (200) and 2202 (202), and 10 additional cr hrs in AnthroP; or permission of instructor. Not open to students with credit for 611.		
Theory.			5620 Hunters and Gatherers	U G	3
Prereq: Permission of instructor. Repeatable. This course is graded S/U.			Overview of anthropological studies of people who subsist primarily by hunting and gathering wild food.		
5193.05 Individual Studies: Prehistory	U G	1 - 99	Prereq: 2202 (202) or equiv, or permission of instructor. Not open to students with credit for 620.01.		
Prehistory.			5624 The Anthropology of Food: Culture, Society and Eating	U G	3
Prereq: Permission of instructor. Repeatable. This course is graded S/U.			Explores food traditions, global expansion of foods and the production/exchange of food in culture and society.		
5193.06 Individual Studies: Ethnography	U G	1 - 99	Prereq: 2200 (200), 2201 (201), or 2202 (202), or permission of instructor. Not open to students with credit for 620.08.		
Ethnography.			5625 Anthropology of Religion	U G	3
Prereq: Permission of instructor. Repeatable. This course is graded S/U.			World views of tribal and peasant cultures with an emphasis on religion; integration of religion with other aspects of culture.		
5193.07 Individual Studies: Physical Anthropology	U G	1 - 99	Prereq: 2202 (202) or equiv, or permission of instructor. Not open to students with credit for 620.11.		
Physical Anthropology.					
Prereq: Permission of instructor. Repeatable. This course is graded S/U.					

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5626 More: Culture and Economic Life	U G	3	7800 We are what we eat: Applications of biogeochemistry	G	3			
An analysis of economic rationality in non-market and market societies; resource allocation, work organization, product disposition, exchange, money, trade, and development. Prereq: 2202 (202) or equiv, or permission of instructor. Not open to students with credit for 620.15.								
5630 Language and Culture in Education	U G	3	7802 Origins of Food Production	G	3			
Examination of the problems of educating children of diverse cultural and linguistic backgrounds in the U.S. school system. Prereq: 2202 (202) and equiv, or Grad standing. Not open to students with credit for 630.								
5641 Primate Behavior	U G	3	7803 The Archaeology of Complex Societies	G	3			
A broad survey of living primates, major taxonomic groups within the order, diet, group living, mating strategies, predation, intelligence. Prereq: Not open to students with credit for 640.01.								
5644 Forensic Anthropology	U G	3	7804 Issues in Archaeological Theory	G	3			
Application of osteological and bioarchaeological methods in forensic science. Prereq: 2200 (200) and 5607 (603.01) or equiv, or permission of instructor. Not open to students with credit for 640.04.								
5650 Research Design and Ethnographic Methods	U G	3	7805 Seminars in Ethnology	G	2 - 27			
Students learn to study anthropological problems through hands on experience with ethnographic methods, critical discussion of issues in ethnographic research and design of an ethnographic study. Prereq: 2202 (202), or permission of instructor. Not open to students with credit for 650.								
5684 Summer Field School in Archaeology- Fee	U G	3 - 15	Seminars in Ethnology.					
Practical experience in archaeological fieldwork including site survey, excavation, surveying and mapping, preservation, and other related methods and techniques of data recovery. This course has a lab fee for room, board and supplies. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.								
5685 Summer Field School in Archaeology	U G	2 - 15	Repeatable to a maximum of 27 cr hrs or 14 completions.					
Practical experience in archaeological fieldwork including site survey, excavation, surveying and mapping, preservation, and other related methods and techniques of data recovery. Prereq: Permission of instructor. Repeatable.								
5686 Forensic Science, Forensic Anthropology and Forensic Archaeology Summer Field School	U G	3	7999 Research in Anthropology: Thesis	G	1 - 18			
Intensive forensic science field course covering crime scene processing, evidence collection, and case development for testimony in court. Prereq: Permission of instructor. Not open to students with credit for 686.								
5700 Anthropology, Public Health, and Human Rights	U G	3	Research for thesis purposes only.					
This course provides an introduction to the relationship between medical anthropology and global public health with an emphasis on social justice and health as a human right. Health policy, evidence-based medicine, children's health, HIV, TB, chronic disease, citizenship and deservingness, and other health topics will be discussed and analyzed from a cross-cultural and ethnographic perspective.								
5701 Health and Healing in Latin America and the Caribbean	U G	3	Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.					
A biocultural examination of traditional and western healing practices and health disparities across the Latin American region. This course considers diverse perspectives on disease causality and prevention including shamanism, ethnophysiology, and ethnobotany. Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 27 completions. This course is progress graded.								
5797 Study at a Foreign Institution	U G	1 - 27	8193.01 Individual Studies: Theory	G	1 - 99			
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of dept chairperson. Repeatable to a maximum of 40 cr hrs or 27 completions. This course is progress graded.								
7194 Group Studies	G	2 - 80	Theory.					
Group Studies.								
Repeatable.								
7701 Advanced Topics in Physical Anthropology: Modern Human Physical Variation	G	3	8193.04 Individual Studies: Research Methods	G	1 - 27			
Discussion of advanced topics in human variation and hominid evolution; emphasis on critical analysis and evolution of theoretical topics in research design. Survey of modern human biological diversity; underlying evolution and adaptability. Prereq: Not open to students with credit for 701.01.								
7702 Advanced Topics in Physical Anthropology: Hominid Paleoanthropology	G	3	Research methods.					
Advanced topics in human variation and hominid evolution; emphasis on critical analysis and evolution of theoretical topics in research design. Prereq: Not open to students with credit for 701.02.								
7703 Theories in Cultural Anthropology	G	3	Prereq: Permission of instructor. Repeatable. This course is graded S/U.					
Major theoretical orientations in cultural anthropology; the developmental histories of the major theoretical schools and examination of their respective philosophical foundations. Prereq: Not open to students with credit for 702.								
7720 Teaching In Anthropology	G	3	8193.05 Individual Studies: Prehistory	G	1 - 27			
Focuses on skills and pedagogy involved in teaching introductory anthropology. Prereq: Grad standing in Anthropol. Not open to students with credit for 720.								
Prehistory.								
Prereq: Permission of instructor. Repeatable. This course is graded S/U.								
8827 Writing and Publishing in Anthropology	G	3	8193.06 Individual Studies: Ethnology	G	1 - 27			
Advanced seminar in production and publication of professional literature in anthropology. Prereq: Grad standing in Anthropol. Not open to students with credit for 827.								
8828 Writing Research Proposals in Anthropology	G	3	Ethnology.					
Advanced seminar in constructing and submitting proposals for funded research in anthropology. Prereq: Grad standing in Anthropol. Not open to students with credit for 828.								
8891.04 Seminars in Cultural Anthropology: Human Ecology	G	2 - 27	Prereq: Permission of instructor. Repeatable. This course is graded S/U.					
Human ecology.								
Repeatable to a maximum of 27 cr hrs or 14 completions.								
8891.05 Graduate Seminar in Research Design and Ethnographic Methods	G	3	8891.06 Seminars in Cultural Anthropology: Theory and Problems in Cultural Anthropology	G	2 - 6			
Study design and data analysis.								
Repeatable to a maximum of 6 cr hrs.								
8892.01 Seminars in Physical Anthropology: Evolutionary Theory	G	2 - 6	Theory and problems in cultural anthropology.					
Evolutionary theory.								
Prereq: Grad standing in Anthropol. Repeatable to a maximum of 6 cr hrs or 3 completions.								

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8892.04 Seminars in Physical Anthropology: Population Genetics	G	2 - 27	2101 Arabic Grammar I	U	3
Population genetics. Repeatable to a maximum of 27 cr hrs or 14 completions.			Accelerated introduction to the structure of modern standard and classical Arabic: phonology, morphology, and syntax, with emphasis on development of reading comprehension skills. Closed to native speakers of this language.		
8892.11 Seminars in Physical Anthropology: Quantitative Methods	G	2 - 6	Prereq: 1103. Not open to students with credit for 200.01.		
Quantitative methods. Repeatable to a maximum of 6 cr hrs or 3 completions.			2104.01 Intermediate Modern Standard Arabic II	U	4
8892.12 Seminars in Physical Anthropology: Quantitative Methods II: Advanced	G	2 - 27	Initiating and sustaining communication, reading and understanding short authentic passages, and writing to express many language functions. Regular classroom track. Not open to native speakers of Arabic.		
Quantitative Methods II: Advanced. Repeatable to a maximum of 27 cr hrs or 14 completions.			Prereq: 1103.01 or 4 credit hours of 1103.51. Not open to students with credit for 2104.02.		
8892.13 Seminars in Physical Anthropology: Bioarchaeology	G	3	2104.02 Intermediate Modern Standard Arabic II: Intensive	U	4
Seminar on the study of human remains from archaeological contexts; focus on health, disease, injury, biomechanics, diet, and population history. Repeatable to a maximum of 27 cr hrs.			Initiating and sustaining communication; reading and understanding short original texts and passages; writing to express many language functions. Intensive classroom track. Not open to native speakers of Arabic.		
8892.14 Seminars in Physical Anthropology.	G	2 - 27	Prereq: Permission of department. Concur: 1103.02. Not open to students with credit for 2104.01.		
Seminars in physical anthropology. Repeatable to a maximum of 27 cr hrs or 14 completions.			2193 Individual Studies	U	1 - 10
8893.05 Seminars in Prehistory: Landscape in Anthropology	G	2 - 12	Individual Studies		
Landscape in anthropology. Repeatable to a maximum of 12 cr hrs or 6 completions.			Prereq: Permission of department or instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.		
8893.06 Seminars in Prehistory: Paleodiet	G	3	2194 Group Studies	U	1 - 10
Advanced survey of current archaeological research on past human diet, with emphasis on methods. Provides graduate-level advanced study of human diet as revealed through the archaeological record.			Group Studies		
Prereq: Not open to students with credit for 830.06.			Prereq: Permission of department or instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.		
8999 Research in Anthropology: Dissertation	G	1 - 80	2241 Culture of the Contemporary Arab World	U	3
Research for dissertation purposes only. Repeatable. This course is graded S/U.			A general survey and examination of the socio-cultural structure of the modern Arab World. Taught in English.		
			Prereq: Not open to students with credit for 241. GE culture and ideas and diversity global studies course.		
			2367 Issues in Arab-American Society, Culture, and Literature	U	3
			Discussion, analysis, and writing about issues relating to Arab-American culture, society, and literature within the context of social diversity in the United States.		
			Prereq: English 1110 (110) or equiv, and Soph standing or above. Not open to students with credit for 367. GE writing and comm course: level 2 and cultures and ideas and diversity soc div in the US course.		

Arabic

1101.01 Elementary Modern Standard Arabic I	U	4	2701 Classical and Medieval Arabic Literature in Translation	U	3
Developing the ability to use Arabic functionally and communicatively in context; intensive oral interaction with instructor and fellow students; the basics of the writing system. Classroom track. Not open to native speakers of Arabic.			Reading and analysis of major works of Arabic literature from the 6th to the 17th centuries including classical poetry, the Qur'an, and the Arabian Nights.		
Prereq: Not open to students credit for 101.02 or 4 cr hrs of 1101.51. This course is available for EM credit. GE for lang course.			Prereq: English 1110 (110). Not open to students with credit for 371. GE lit and diversity global studies course.		
1101.02 Elementary Modern Standard Arabic I: Intensive	U	4	2702 Modern Arabic Literature in Translation	U	3
Developing the ability to use Arabic functionally and communicatively in context; intensive oral interaction with instructor and fellow students; the basics of the writing system. Intensive classroom track. Not open to native speakers of Arabic through regular course enrollment, transfer, or EM credit.			Reading and analysis of representative works of the 19th and 20th centuries; by contemporary women authors.		
Prereq: Permission of department. Concur: 1102.02. Not open to students with credit for 1101.01, 1101.02, or 4 credit hours of 1101.51. This course is available for EM credit. GE for lang course.			Prereq: English 1110 (110). Not open to students with credit for 2702 (372), 2702H (372H), 372, or WGSSt 2702H (372H). GE lit and diversity global studies course. Cross-listed in WGSSt.		
1102.01 Elementary Modern Standard Arabic II	U	4	2702H Modern Arabic Literature in Translation	U	3
Developing further language ability through learning how to perform certain functions orally and using them with fellow students; reading and writing passages reflecting their abilities. Classroom track. Not open to native speakers of Arabic.			Reading and analysis of representative works of the 19th and 20th centuries by contemporary women authors.		
Prereq: 1101.01 or 4 cr hrs of 1101.51. Not open to students with credit for 1102.02 or 4 cr hrs of 1102.51. This course is available for EM credit. GE for lang course.			Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 372H, 2702 (372), WGSSt 2702 (372), or 2702H (372H). GE lit and diversity global studies course. Cross-listed in WGSSt.		
1102.02 Elementary Modern Standard Arabic II: Intensive	U	4	2705 The Arabian Nights	U	3
Developing further language ability through learning how to perform certain functions orally and using them with fellow students; reading and writing passages reflecting their abilities. Intensive classroom track. Not open to native speakers of Arabic through regular course enrollment, transfer, or EM credit.			Readings from The Arabian Nights; the history of the text, translations and literary and cinematic adaptations.		
Prereq: Permission of department. Concur: 1101.02. Not open to students with credit for 1102.01 or 4 cr hrs of 1102.51. This course is available for EM credit. GE for lang course.			Prereq: English 1110 (110). Not open to students with credit for 375. GE lit course.		
1103.01 Intermediate Modern Standard Arabic I	U	4	2798.01 Morocco May Tour: The Arab World Up Close; History, Religion, Culture and Politics	U	3
Building on previously acquired functional abilities; using Arabic to express opinion and feelings; oral interaction in the classroom; reading authentic texts or various genres. Classroom track. Not open to native speakers of Arabic.			Introduces students to 19th- and 20th-Century as well as contemporary history, politics, literature and culture of Morocco, through conversations with major political, civil, and intellectual figures in visits to such places as the Royal Library, The Royal Academy for Amazighi Studies, Parliament, NGOs premises, as well as to Fez, Meknes, and Marrakesh.		
Prereq: 1102.01, 1102.02, or 4 cr hrs of 1102.51. Not open to students with credit for 1103.02 or 4 cr hrs of 1103.51. This course is available for EM credit. GE for lang course.			3105 Intermediate Literary Arabic Reading I	U	4
1103.02 Intermediate Modern Standard Arabic I: Intensive	U	4	Developing reading skills through reading adapted and authentic Arabic texts; selections reflect cultural and literary aspects of Arabic culture.		
Building on previously acquired functional abilities; using Arabic to express opinion and feelings; increased oral interaction in the classroom; reading simplified original texts. Intensive classroom track. Not open to native speakers of Arabic through regular course enrollment, transfer, or EM credit.			Prereq: 2104. Not open to students with credit for 401.		
Prereq: Permission of department. Concur: 2104.02. Not open to students with credit for 1103.01 or 4 cr hrs of 1103.51. This course is available for EM credit. GE for lang course.			3301 Contemporary Folklore in the Arab World	U	3
			Study of contemporary folklore of the Arab World including verbal art, material culture, visual self-presentation, and performance.		
			Prereq: Not open to students with credit for 377. GE culture and ideas and diversity global studies course. Cross-listed in CompStd 3657.		

28 Arabic

Architecture 29

3192	Homes and Houses: Where We Live	U	3		4880	Interdepartmental Seminar	U	1 - 15
	Introduction to architecture as an artistic practice through exploration of the way we design, build, and occupy houses. Historical survey of both everyday and refined dwellings, focusing on twentieth century North American architects and houses will challenge accepted norms of home design and how those have evolved. The impact of "high" design on the everyday will be a theme.				Interdepartmental seminar; topics to be announced.			
	GE VPA course.				Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in CRPlan and LArch.			
3194	Group Studies in Architecture	U	1 - 15		4999	Design Studio for Thesis	U	6
	For group-based special studies in architecture within the frame of an instructor guided course. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.				Topical research/design projects in architecture.			
3195	Modern Rome	U	3		Prereq: Permission of instructor.			
	Rome's historic and current architecture and its urban evolution will reveal timeless and timely influences during the modern period. Design-based historic scholarship will draw on visual literacy and creative inquiry to understand, appreciate and assess one of the most intriguing, beautiful, important and enduring cities in Western civilization.				4999H	Architecture Honors Design Studio	U	6
	GE cultures and ideas course, and diversity global studies course.				Topical research/design projects in architecture. Honors section.			
3410	Architectural Design III	U	6		Prereq: Honors standing, and major within the Knowlton School of Architecture. Not open to students with credit for 784H.			
	Architectural design with an emphasis on materiality.				5110	History of Architecture I	U G	4
	Prereq: 2420 (243). Not open to students with credit for 341 or 342.				History of architecture from ancient to contemporary: historical inquiry, physical and cultural influences, theories, and analytical techniques. Continues as 5120.			
3420	Architectural Design IV	U	6		Prereq: Not open to students with credit for 600 and 601.			
	Architectural design with an emphasis on materiality. Continuation of Arch 3410.				5110E	History of Architecture I	U G	4
	Prereq: 3410, or both 341 and 342. Not open to students with credit for 343.				History of architecture from ancient to contemporary: historical inquiry, physical and cultural influences, theories, and analytical techniques.			
3420.02	Architectural Design IV	U	3		Prereq: Honors standing. Not open to students with credit for 600 and 601.			
	Architectural design with an emphasis on materiality. Continuation of 3410. Part two of two with 3420.01.				5120	History of Architecture II	U G	4
	Prereq: 3410 (341 and 342). Not open to students with credit for 343.				History of architecture from ancient to contemporary: historical inquiry, physical and cultural influences, theories, and analytical techniques. Continuation of 5110.			
4193	Independent Studies in Architecture	U	1 - 15		Prereq: Not open to students with credit for 602.			
	For students who wish to pursue special independent studies in architecture with the guidance of an advisor/instructor.				5120E	History of Architecture II	U G	4
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.				History of architecture from ancient to contemporary: historical inquiry, physical and cultural influences, theories, and analytical techniques. Continuation of 5110.			
4194	Group Studies in Architecture	U	1 - 15		Prereq: Honors standing. Not open to students with credit for 602.			
	For group-based special studies in architecture within the frame of an instructor guided course.				5191	Professional Experience in Architecture	U G	0
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.				Documentation of work experience in the field of architecture or suitable related areas.			
4410	Architectural Design V	U	6		Prereq: Permission of instructor. Repeatable to a maximum of 6 completions. This course is graded S/U.			
	Architectural design with an emphasis on organization.				5194	Group Studies in Architecture	U G	1 - 15
	Prereq: 3420 (343). Not open to students with credit for 441 or 442.				For group-based special studies in architecture within the frame of an instructor guided course.			
4420	Architectural Design VI	U	6		Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.			
	Architectural design with an emphasis on organization. Continuation of Arch 4410.				5210	Forms of Architectural Theory	U G	3
	Prereq: 4410 (441 and 442). Not open to students with credit for 443.				Survey of architectural theory that reviews the history of architecture while searching for reinterpretations, strategies, structures, and precedents.			
4596	Design Agency on Wicked Problems: World Building Your Life	U	3		Prereq: 5110 and 5120 (600, 601, and 602), or permission of instructor. Not open to students with credit for 610.			
	In an era of rapid change locally and globally, technologically and socially, we are increasingly confronted by complex emergent systems problems, or Wicked Problems. This course will provide a theoretical framework for understanding and working on wicked problems, and uses design methodologies coming from architectural design to work on the wicked problem of designing your life.				5290	Topics in Architectural Theory	U G	3
	Prereq: Not open to students with credit for 4596E. GE cultures and ideas and cross-disciplinary seminar course.				Investigation of topics in architectural theory.			
4596E	Design Agency on Wicked Problems: World Building Your Life	U	3		Prereq: Enrollment in Architecture major, or permission of instructor. Repeatable.			
	In an era of rapid change locally and globally, technologically and socially, we are increasingly confronted by complex emergent systems problems, or Wicked Problems. This course will provide a theoretical framework for understanding and working on wicked problems, and uses design methodologies coming from architectural design to work on the wicked problem of designing your life.				5290.02	Topics in Architectural Theory	U G	1½
	Prereq: Honors standing. Not open to students with credit for 4596. GE cultures and ideas course and cross-disciplinary seminar course.				Investigation of topics in architectural theory.			
4780H	Undergraduate Research Methods	U	3		Prereq: Enrollment in Arch major, or permission of instructor. Repeatable.			
	Focuses on a broad scope of research methods and the development of architectural design and planning research techniques and skills. Honors section.				5510	Building Construction I	U G	3
	Prereq: Honors standing, and major within the Knowlton School of Architecture. Not open to students with credit for 783H.				Introduction to construction materials and techniques. Continues as 5520.			
4798	Study Tour	U	1 - 15		Prereq: Not open to students with credit for 626 or 627.			
	Group international and domestic travel programs. Opportunities tailored to complement the classroom experience.				5520	Building Construction II	U G	3
	Repeatable to a maximum of 45 cr hrs or 3 completions.				Introduction to construction materials and techniques. Continuation of 5510.			
4798E	Study Tour	U	1 - 15		Prereq: Not open to students with credit for 628.			
	Group international and domestic travel programs. Opportunities tailored to complement the classroom experience.				5590	Topics in Building Technology	U G	3
	Prereq: Honors standing. Repeatable to a maximum of 45 cr hrs or 3 completions.				Investigation of topics in building technology.			
					Prereq: Enrollment in Architecture major, or permission of instructor. Repeatable.			
					5590.01	Topics in Building Technology	U G	1½
					Investigation of topics in building technology.			
					Prereq: Enrollment in Knowlton School of Architecture major, or permission of instructor. Repeatable.			
					5590.02	Topics in Building Technology	U G	1½
					Investigation of topics in building technology.			
					Prereq: Enrollment in Knowlton School of Architecture major, or permission of instructor. Repeatable.			
					5610	Architectural Representation I	U G	3
					Introduction to architectural representation techniques. Continues as 5620.			
					Prereq: Enrollment in a major within the Knowlton School of Architecture. Concur: 2410 (for students pursuing a B.S. in Arch). Not open to students with credit for 271 or 272.			
					5620	Architectural Representation II	U G	3
					Introductions to architectural representation techniques. Continuation of 5610.			
					Prereq: 5610, or both 271 and 272. Concur: 2420 (for students pursuing a B.S. in Arch). Not open to students with credit for 273.			

30 Architecture

5710	Introduction to Architectural Structures I	U G	4	8210	Master Practitioner Seminar	G	1 - 3
	Statics, strength of materials, and structural systems: principles, elements, concepts.				Contemporary strategies in architectural practice and criticism as articulated by contemporary architects, theoreticians, and historians.		
	Prereq: Math 1118 (117) or 1151 or above, and Physics 1200 or above; or Grad standing in Arch; or permission of instructor. Not open to students with credit for 426, 616, 617, or 618.				Prereq: Master of Architecture student in third year of program. Repeatable to a maximum of 3 cr hrs or 2 completions.		
5798	Study Tour	U G	1 - 15	8220	Exit Review Seminar	G	3
	Group international and domestic travel programs. Opportunities tailored to complement the classroom experience.				Articulation of an architectural position that accounts for design production, disciplinary concerns, and cultural forces.		
	Repeatable to a maximum of 45 cr hrs or 3 completions.				Concur: 8420. Not open to students with credit for 844.04.		
5810	Introduction to Environmental, Mechanical, and Electrical Systems in Architecture	U G	3	8410	Advanced Architectural Design III	G	8
	Introduction to environmental issues and building service systems for architecture.				Advanced topics in architectural design.		
	Prereq: Math 1118 (117) or 1151 or above, and Physics 1200; or Grad standing in Arch; or permission of instructor. Not open to students with credit for 661 or 662.				Prereq: 7420 or 844.01. Not open to students with credit for 844.02 or 844.03.		
5880	Interdepartmental Seminar	U G	1 - 15	8420	Advanced Architectural Design IV	G	8
	Interdepartmental seminar; topics to be announced.				Advanced topics in architectural design.		
	Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in LArch and CRPlan.				Prereq: 8410 or 844.02. Not open to students with credit for 844.04.		
5960	Design Competition	U G	1 - 6				
	Learn how to work in interdisciplinary teams to develop design proposals to solve problems in the natural or built environment.						
	Prereq: Jr, Sr, or Grad standing. Repeatable to a maximum of 9 cr hrs or 3 completions.						
	Cross-listed in CRPlan and LArch.						
6194	Graduate Group Studies in Architecture	G	1 - 15				
	For group-based special studies in architecture within the frame of an instructor guided course.						
	Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.						
6410	Accelerated Architectural Design I	G	6				
	Architectural design with an emphasis on form and technique. Continues as 6420.						
	Prereq: Acceptance in the Master of Architecture Graduate Program. Not open to students with credit for 641 or 642.						
6420	Accelerated Architectural Design II	G	6				
	Architectural design with an emphasis on form and technique. Continuation of 6410.						
	Prereq: 6410, or 641 and 642. Not open to students with credit for 643.						
6710	Architectural Structures II	G	3				
	Statics, strength of materials, and structural systems: principles, elements, systems.						
	Prereq: Grad standing. Not open to students with credit for 618 or 724.						
6810	Environmental, Mechanical, and Electrical Systems in Architecture II	G	3				
	Qualitative and quantitative aspects of environmental issues and building service systems for architecture.						
	Prereq: Grad standing. Not open to students with credit for 663.						
7193	Graduate Independent Studies in Architecture	G	1 - 15				
	For students who wish to pursue special independent studies in architecture with the guidance of an advisor/instructor.						
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.						
7194	Graduate Group Studies in Architecture	G	1 - 15				
	For group-based special studies in architecture within the frame of an instructor guided course.						
	Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.						
7210	Architectural Theory I	G	3				
	Investigations in architectural theory. Continues as 7220.						
	Prereq: Grad standing. Concur: 7410. Not open to students with credit for 801 or 802.						
7220	Architectural Theory II	G	3				
	Investigations in architectural theory. Continuation of 7210.						
	Prereq: Grad standing. Concur: 7420. Not open to students with credit for 803.01.						
7310	Practice of the Design Professions	G	3				
	Legal, financial, technical, and ethical issues in architectural practice.						
	Prereq: Enrollment in Master of Architecture Program. Not open to students with credit for 751 or 752.						
7410	Advanced Architectural Design I	G	6				
	Architectural design with an emphasis on materiality and organization.						
	Prereq: 6420 (643), or Enrollment in the Master of Architecture Graduate Program with advanced standing. Not open to students with credit for 841 or 842.						
7420	Advanced Architectural Design II	G	8				
	Architectural design with an emphasis on materiality and organization. Continuation of Arch 7410.						
	Prereq: 7410 (841). Not open to students with credit for 844.01.						

Art

2000	Encountering Contemporary Art	U	3
	Readings, lectures, discussions and field trips will introduce students to a diverse range of ideas, processes and contexts shaping the experience of visual art today.		
	Prereq: Not open to students with credit for 162 or 200.		
2100	Visual Studies: Beginning Drawing	U	3
	An introduction to basic freehand drawing, exploration of a range of drawing methods, media, concepts; emphasis on drawing from observation.		
	Prereq: Not open to students with credit for 170, 205, or 205H. This course is available for EM credit. GE VPA course.		
2100E	Visual Studies: Beginning Drawing	U	3
	An introduction to basic freehand drawing, exploration of a range of drawing methods, media, concepts; emphasis on drawing from observation.		
	Prereq: Not open to students with credit for 170, 205, or 205H. GE VPA course.		
2200	Visual Studies: Expanded Media	U	3
	Introduction to basic concepts of real time and recorded time-based artworks using a variety of processes and media.		
	Prereq: 2000 (200). Not open to students with credit for 208 or 260.		
2300	Visual Studies: Two Dimensional	U	3
	Basic concepts of two-dimensional art dealing with visual structure, process, content, and invention.		
	Prereq: Not open to students with credit for 172, 206, or 206H. This course is available for EM credit. GE VPA course.		
2300E	Visual Studies: Two Dimensional	U	3
	Basic concepts of two-dimensional art dealing with visual structure, process, content, and invention.		
	Prereq: Not open to students with credit for 172, 206, or 206H. GE VPA course.		
2400	Visual Studies: Three-Dimensional	U	3
	Basic concepts of three-dimensional art dealing with the organization of space and form, using a variety of materials, processes, tools.		
	Prereq: 2000 (200) or 2100 (205). Not open to students with credit for 182 or 207. This course is available for EM credit.		
2500	Visual Studies: Digital Image Manipulation	U	3
	Introduction to the creation, manipulation and critical interpretation of graphic and photographic artwork. Includes input and output of digital work as it applies to artists.		
	Prereq: Not open to students with credit for 350.		
2502	Intro to Ceramics - High Fire Techniques	U	3
	Introduction to the art practices of high fire temp ceramics; lab practices with various modeling and potter's wheel techniques with lectures covering a broad survey of the field of ceramics.		
	Prereq: Not open to students with credit for 340 or 342. GE VPA course.		
2502E	Intro to Ceramics - High Fire Techniques	U	3
	Introduction to the art phases of high-fire-temperature ceramics; lab practices with various modeling and potter's wheel techniques with lectures covering a broad survey of the field of ceramics.		
	Prereq: Not open to students with credit for 340 or 342. GE VPA course.		
2503	Glass Basics (Blowing & Construction)	U	3
	Introduction to glass as material for artistic expression, with emphasis on the development of original artworks made from molten glass utilizing glassblowing and glass kiln-working techniques.		
	Prereq: 2000 (200) and 2100 or 2200, or permission of instructor. Not open to students with credit for 330 or 332, without permission of instructor.		
2504	Life Studio Drawing I	U	3
	Drawing from the human figure; discussion of drawing as related to significant traditions, lectures and demonstrations.		
	Prereq: 2100 (205) and 2200 (206). Not open to students with credit for 270 and 370. Repeatable to a maximum of 6 cr hrs.		

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2507	Introduction to Sculpture	U 3		3007	Sculpture: Wood Construction	U 3
	An introduction to the principles of sculpture, emphasizing basic forming processes and materials.				Exploration of a range of technical and conceptual concerns of sculpture using wood as a primary material.	
	Prereq: 2000 (200), 2100 (205), and 2400 (207), or permission of instructor. Not open to students with credit for 307.				Prereq: 2300 and 3507, or 207 and 307. Not open to students with credit for 480.	
2514	Visual Studies: Color	U 3		3009	Film/Video I: Technologies and Analysis	U 3
	An introduction to seeing and using color for all disciplines; projects deal with color organization, phenomena, and interaction.				Introduction to the creation and analysis of video artwork; including techniques of video capture, post production, manipulation and critique within the context of art.	
	Prereq: 2000 (200), or 2000E; and HistArt 201 or 202. Not open to students with credit for 372.				Not open to students with credit for 5501.	
2516	Introduction to Relief and Intaglio Printmaking	U 3		3016	Printmaking - Relief	U 3
	Introductory experiences in the traditional processes of relief and intaglio and their application to non-traditional approaches.				The practice and examination of several modes of artistic expression in the relief processes of printmaking.	
	Prereq: 3 of the following: 2000 (200), 2001, 2200, 2300 (206), 205, or 207. Not open to students with credit for 2 or more of the following: 375, 376, 377, 378, or 379.				Prereq: 162, 170, 172, 182, 260, and 270 (prior to 2003), or Art 375 (after 2003); and HistArt 2001, 2002, 210, 211, 212, 213, or 216. Not open to students with credit for 476 and 376.	
2516E	Introduction to Relief and Intaglio Printmaking	U 3		3026	Printmaking - Serigraphy	U 3
	Introductory experiences in the traditional processes of relief and intaglio and their application to non-traditional approaches.				The practice and examination of several modes of artistic expression in the serigraphic processes of printmaking.	
	Prereq: Honors standing, and 3 of the following: 2000 (200), 2001, 2200, 2300 (206), 205, or 207; or permission of instructor. Not open to students with credit for 2 or more of the following: 375, 376, 377, 378, or 379.				Prereq: 3016, and 162, 170, 172, 182, 260, and 270 (pre 2003) or 375 (post 2003), and HistArt 210, 211, 212, 213, 216, 2001, or 2002. Not open to student with credit for 375 or 477.	
2524	Painting I	U 3		3036	Printmaking - Intaglio	U 3
	Introductory painting emphasizing fundamentals and their utilization as a basis for individual development; student initially works from still life; subsequent projects increase in complexity.				The practice and examination of several modes of artistic expression in intaglio processes of printmaking.	
	Prereq: 2000 (200), or 2514 (372); and HistArt 201 or 202. Not open to students with credit for 373.				Prereq: 3006, or 162, 170, 172, 182, 260, and 270 (pre 2003), or 375 (post 2003), and HistArt 210, 211, 212, 213, 216, 2001, or 2002. Not open to students with credit for 375 or 478.	
2526	Introduction to Lithography and Silkscreen Printmaking	U 3		3036E	Printmaking - Intaglio	U 3
	Introductory experiences in the traditional processes of lithography and screenprinting and their application to non-traditional approaches.				The practice and examination of several modes of artistic expression in intaglio processes of printmaking.	
	Prereq: 3 of the following: 2000 (200), 2001, 2200, 2300 (206), 205, or 207. Not open to students with credit for 2 or more of the following: 375, 376, 377, 378, or 379.				Prereq: Honors standing, and 3006, or 162, 170, 172, 182, 260, and 270 (pre 2003) or 375 (post 2003), and HistArt 210, 211, 212, 213, 216, 2001, or 2002, or permission of instructor. Not open to student with credit for 375 or 478.	
2526E	Introduction to Lithography and Silkscreen Printmaking	U 3		3046	Printmaking - Lithography	U 3
	Introductory experiences in the traditional processes of lithography and screenprinting and their application to non-traditional approaches.				The practice and examination of several modes of artistic expression in lithographic processes of printmaking.	
	Prereq: Honors standing, and 3 of the following: 2000 (200), 2001, 2200, 2300 (206), 205, or 207; or permission of instructor. Not open to students with credit for 2 or more of the following: 375, 376, 377, 378, or 379.				Prereq: 3016, or 162, 170, 172, 182, 260, and 270 (pre 2003), or 375 (post 2003), and HistArt 210, 211, 212, 213, 216, 2001, or 2002. Not open to students with credit for 375 or 479.	
2553	Glass Basics (Blowing & Kilnworking)	U 3		3054	Painting II	U 3
	Introduction to glass as material for artistic expression, with emphasis on the development of original artworks made from molten glass utilizing glassblowing and glass construction techniques.				A continuation of 2524 emphasizing technical and conceptual fundamentals of painting from observation and abstraction with a focus in spatial relationships in painting.	
	Prereq: 2000 and 2100 or 2200, or permission of instructor. Not open to students with credit for 330 and 331, without permission of instructor.				Prereq: 2514, 2524, or 3104, or Art 273, 370, 372, 373, or 470 (after Au Qtr 2003), or Art 270 (prior to Au Qtr 2003). Not open to students with credit for 373 (prior to Au Qtr 2003) or 473.	
2555	Photography I - Digital Camera	U 3		3101	3D Modeling Sculpture	U 3
	Introduces photographic theory, practice, and aesthetics with image production, commercial lab prints and critiques. Student provides digital camera, minimum 6 mp, with full manual controls and exposure compensation available.				Study of concepts, aesthetics, procedures, and critical practice of sculpting with 3D modeling software for generation of form, environment and character. Includes output to 2D and 3D rapid prototyping printers, laser cutters or CNC milling.	
	Prereq: Not open to students with credit for 300.01, 300.02, or 300.02H. GE VPA course. VSP Admis Cond course.				Prereq: 2500 or 350. Not open to students with credit for 452. Repeatable to a maximum of 6 cr hrs.	
2555H	Photography I - Digital Camera	U 3		3104	Intermediate Drawing	U 3
	Introduces photographic theory, practice, and aesthetics with image production, commercial lab prints and critiques. Student provides digital camera, minimum 6 mp, with full manual controls and exposure compensation available.				Intermediate level drawing experience focusing on drawing from observation, exploration materials and processes and the use of color.	
	Prereq: Honors standing, or permission of instructor. Not open to students with credit for 300.01, 300.02, or 300.02H. GE VPA course. VSP Admis Cond course.				Prereq: 2524, or Art 370 (after Au Qtr 2003), or Art 270 (prior to Au Qtr 2003). Not open to students with credit for 370 (prior to Au Qtr 2003) or 470.	
2602	Intro to Ceramics - Low Fire Techniques	U 3		3107	Life Sculpture	U 3
	Introduction to the art phases of low fire temp ceramics; laboratory practice with various modeling and potter's wheel techniques with lectures covering a broad survey of the field of ceramics.				Aspects of the human form studied in relation to the materials of sculpture; experimentation in a range of materials: clay, wax, cement, and plaster.	
	Prereq: Not open to students with credit for 340 or 342.				Prereq: 2300 and 3507, or 207 and 307. Not open to students with credit for 482.	
2990	BFA Portfolio Review	U 0		3191.10	Internship: Art and Technology	U 1 - 3
	Successful BFA portfolio review.				A cooperative education or internship assignment conducted under the supervision of a faculty member.	
	Prereq: 2000 (200), 2100 (205), 2200 (208), 2300 (206), 2400 (207), and one core course in student's proposed area of concentration. Repeatable to a maximum of 2 completions. This course is graded S/U.				Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions.	
3001	Internet Art	U 3		3191.20	Internship: Ceramics	U 1 - 3
	Integration of image, video, animation and audio for the creation of internet art. Issues of tactical media, identity construction and digital aesthetics emphasized.				A cooperative education or internship assignment conducted under the supervision of a faculty member.	
	Prereq: 2500 (350). Not open to students with credit for 451. Repeatable to a maximum of 6 cr hrs.				Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 5 completions.	
3005	Photography II	U 3		3191.30	Internship: Glass	U 1 - 3
	Emphasis aesthetic and technical considerations commenced in 2555 through Black and White film, introduction to the wet darkroom. Limited number of loaner film cameras available.				A cooperative education or internship assignment conducted under the supervision of a faculty member.	
	Prereq: 2555 (300.01 and 300.02). Not open to students with credit for 400 or 401.				Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions.	

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3191.60 Internship: Printmaking	U	1 - 3	4191.50 Undergraduate Internship Photography	U	1 - 3
A cooperative education or internship assignment conducted under the supervision of a faculty member.			Open to advanced photo majors with appropriate coursework for the internship content. May be NFP gallery / museum work, commercial studio work (by application to the studio), or intern teaching.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions.			Prereq: Permission of instructor. Not open to student with credit for 589.		
3191.70 Internship: Sculpture	U	1 - 3	4201 New Media Art	U	3
A cooperative education or internship assignment conducted under the supervision of a faculty member.			Approaches to new media, interactivity, digital control of objects, projections, and sound in installation events, performances, and exhibitions.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions.			Repeatable to a maximum of 6 cr hrs.		
3194 Group Studies	U	3	4254 Multi-Level Painting	U	3
Group studies for students in specialized programs.			Intermediate painting; traditional subject matter such as the figure, still life, and concepts relative to contemporary directions in painting.		
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.			Prereq: 473. Repeatable to a maximum of 6 cr hrs.		
3201 Holography I	U	3	4401 Computer Animation	U	3
The basic technique of three-dimensional image making; construction of a diode laser and use of this device to make holograms.			Focus on the concepts, aesthetics, processes, and practice of designing and producing 3D computer animation. Theory and techniques of cinematography, video production and sound as related to 3D computer animation will be covered.		
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.			Repeatable to a maximum of 6 cr hrs.		
3201H Holography I	U	3	4503 Intermediate Glass Topics	U	3
The basic technique of three-dimensional image making; construction of a diode laser and use of this device to make holograms.			Glass as an artistic material; emphasis on the evolution of a personal aesthetic through series studies. Focus on kiln-forming, flameworking, and cutting.		
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs.			Prereq: 2503 and 2513, or permission of instructor. Limited to 1 completion to students with credit for 631. Repeatable to a maximum of 6 cr hrs.		
GE VPA course. Cross-listed in Physics.			4901 Studio Practice: Art and Technology	U	3
3207 Sculpture: Metal Fabrication	U	3	Intermediate studio practice for majors in Art & Technology, following and continuing the basic program of courses undertaken in the first two years.		
The use of metal in developing concepts of sculpture including casting, forging, and other metal fabrication processes.			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.		
Prereq: 2300 and 3507, or 207 and 307. Not open to students with credit for 481.			4902 Advanced Studio Ceramics I	U	3
3502 Intermediate Ceramics - High Fire Techniques	U	3	Advanced Ceramic studio work developed in consultation with and under close supervision of the instructor.		
Intermediate level studio refining the ceramic skill base; a high fire temp lab practice with various modeling and potter's wheel techniques, lectures covering related critical theory and methods within the field of ceramics.			Prereq: Permission of instructor. Not open to students with 20 cr hrs for 591.03. Repeatable to a maximum of 9 cr hrs.		
Prereq: 2502 (340) or 2602 (342), or permission of instructor. Not open to students with credit for 440 or 442.			4903 Studio Practice I: Glass	U	3
3503 Intermediate Glass Methods	U	3	Upper level studio technique and series study, following and continuing the basic program of courses taken in the first two years.		
Molten glass as an artistic material; emphasis on the evolution of a personal aesthetic through series studies.			Prereq: 4503, or permission of instructor. Not open to students with 20 qtr cr hrs for 591.04. Repeatable to a maximum of 12 cr hrs.		
Prereq: 2503 and 2513, or permission of instructor. Repeatable to a maximum of 6 cr hrs.			4913 Studio Practice II - Glass	U	3
Limited to 1 completion for students with credit for 630.			Upper level studio technique and series study, following and continuing the basic program of courses taken in the first two years.		
3602 Intermediate Ceramics - Low Fire Techniques	U	3	Prereq: 4503, or permission of instructor. Not open to students with 20 qtr cr hrs for 591.04. Repeatable to a maximum of 12 cr hrs.		
Intermediate level studio refining ceramic skill base; a low fire temp lab practice with various modeling and potter's wheel techniques, lectures covering related critical theory and methods within the field of ceramics.			4950 Senior Seminar in Studio Art	U	3
Prereq: 2502 (340) or 2602 (342), or permission of instructor. Not open to students with credit for 440 or 442.			Presentations of studio work by students, faculty and visiting artists. Accompanied by critical discussion emphasizing contemporary issues and selected readings.		
4004 Special Topics: Drawing	U	3	Prereq: Permission of instructor. Not open to students with credit for 595.		
Special topics in intermediate to advanced drawing materials and processes for personal expression with emphasis on development of analytical and critical skills.			4998 UG Scholarship Research / Creative Activity	U	3
Prereq: 3104, or Art 470 (after Au Qtr 2003), or Art 370 (prior to Au Qtr 2003). Repeatable to a maximum of 6 cr hrs.			Undergraduate research or creative activities in varying topics.		
4007 Intermediate Sculpture I	U	3	Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
Group studio with conceptual and material emphasis led by rotating area faculty. Course may have special topic focus.			4998H UG Scholarship Research / Creative Activity	U	3
Prereq: 3507 (480), 3207 (481), and 3307 (482). Not open to student with credit for 587.01, 587.02, or 587.03. Repeatable to a maximum of 9 cr hrs or 3 completions.			Undergraduate research or creative activities in varying topics.		
4009 Film/Video II: Experimental Strategies	U	3	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs.		
This course is designed as an overview of a broad range of strategies and issues unique to the practice sometimes labeled "experimental film," "avant-garde cinema," or "video art."			4999.10 Senior Project - Art & Tech	U	3
Intermediate theory and practice of creating film/video artwork. Emphasis on personal expression and experimental approaches.			Required exhibition of studio work by seniors in BFA programs, accompanied by development of a portfolio of work and an artist's statement.		
Prereq: 3009, or permission of instructor. Not open to students with credit for 5551.			Prereq: 595, and enrollment in BFA in Art, and Sr standing, or permission of instructor. Not open to students with credit for 696.		
4101 Moving Image Art	U	3	4999.20 Senior Project - Ceramics	U	3
Creation, manipulation and animation of digital imagery, including the integration of multiple media elements, such as video, drawings and audio into artistic projects.			Required exhibition of studio work by seniors in BFA programs, accompanied by development of a portfolio of work and an artist's statement.		
Prereq: 2500 or 350, and 3101 (452) or 4001 or 553. Repeatable to a maximum of 6 cr hrs.			Prereq: 595, and enrollment in BFA in Art, and Sr standing, or permission of instructor. Not open to students with credit for 696.		
4104 Life Drawing Studio II	U	3	4999.30 Senior Project - Glass	U	3
Intermediate to advanced level course focusing on issues of the figure.			Required exhibition of studio work by seniors in BFA programs, accompanied by development of a portfolio of work and an artist's statement; independent study tutorial.		
Prereq: 3104, or Art 470 (Au Qtr 2003 and after), or Art 370 (prior to Au Qtr 2003). Repeatable to a maximum of 6 cr hrs.			Prereq: 595, and Sr standing, and BFA in Art; or permission of instructor. Not open to students with credit for 696.		
4107 Intermediate Sculpture I	U	3			
Group studio with conceptual and material emphasis led by rotating area faculty. Course may have special topic focus.					
Prereq: 3207 (481), 3307, and 3507, or 480, 481, and 482. Not open to students with credit for 587.01, 587.02, and 587.03. Repeatable to a maximum of 12 cr hrs.					

4999.40 Senior Project - Painting & Drawing	U	3	5107 Advanced Sculpture II	U G	3
Required exhibition of studio work by seniors in BFA programs, accompanied by development of a portfolio of work and an artist's statement; independent study tutorial.					
Prereq: 595, and enrollment in BFA in Art, and Sr standing, or permission of instructor. Not open to students with credit for 696.			Group studio with conceptual and material emphasis led by rotating area faculty. Courses may have special topic focus.		
4999.50 Senior Project - Photography					
Advanced group investigation of individual photographic projects with weekly critique sessions and exit exhibition preparations.	U	3	Prereq: 3207 (481), 3307, and 3507, or Art 480, 481, and 482. Repeatable to a maximum of 6 cr hrs.		
Prereq: 5225 (695.07) and 5235 (695.08). Concur: 5245 (695.06). Not open to student with credit for 690 or 696.			5108 Professional Practice - Career Preparation in Art		
4999.60 Senior Project - Printmaking					
Required exhibition of studio work by seniors in BFA programs, accompanied by development of a portfolio of work and an artist's statement; independent study tutorial.	U	3	Information to help graduating seniors and graduate students in the department of art to meet the professional expectations involved in exhibiting and promoting their creative work and to develop strategies to function as an independent artist.		
Prereq: 595, and enrollment in BFA in Art, and Sr standing, or permission of instructor. Not open to students with credit for 696.			Prereq: Sr or Grad standing in Art.		
4999.70 Senior Project - Sculpture					
Final project determined and executed by BFA sculpture majors.	U	3	5115 Photography Studio Lighting	U G	3
Prereq: 595, and enrollment in BFA in Art, and Sr standing, or permission of instructor. Not open to students with credit for 696.			Introduction to lighting equipment, principles, and techniques as applied to constructed/directed photography done predominantly in the studio environment. B&W wet lab with limited digital printing.		
4999H Honors Thesis Research			Prereq: 3005 (400) and 5275, or Art 400 and 695.10; or permission of instructor. Concur: 5105. Not open to students with credit for 695.03.		
Senior Honors Thesis.	U	1 - 3	5126 Advanced Printmaking - Relief and Intaglio		
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.			An intensive exploration of the relief and intaglio processes as a means for individual expression.		
5001 Aspects of Art and Technology I			Prereq: 4006 (476) and 4026 (478), or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		
Creative and conceptual explorations into technical, aesthetic, and theoretical topics in the field of Art and Technology. Includes interactive installation, biological, surveillance/telepresence, narrative, algorithmic, and performative art.	U G	3	5154 Advanced Painting	U G	3
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.			Special topics in painting with a wide emphasis upon current directions, new media, and techniques; lectures, discussions, and field trips.		
5004 Advanced Drawing			Prereq: 4254 (573). Not open to students with 20 qtr cr hrs for 673. Repeatable to a maximum of 12 cr hrs.		
Special problems in drawing, utilizing a wide range of media and methods and exploring a variety of materials in experimental approaches to drawing.	U G	3	5175 History of Photography	U G	3
Prereq: 570, 570.01, or 570.02. Repeatable to a maximum of 12 cr hrs.			Covers the history of photography from its inception to today, and also introduce historic and contemporary theories of the medium.		
5006 Alternative Printmaking			Concur: 3005 (400), or permission of instructor. Not open to students with credit for 695.10.		
Intensive exploration of reproduction technologies including digital, mechanical, and photographic approaches. Emphasis will be placed on the aesthetic of these methods as tools for creative production.	U G	3	5193.20 Individual Studies - Ceramics	U G	3
Prereq: 4006, 4016, 4026, 4036, 377, 378, or 379, or permission of instructor. Repeatable to a maximum of 12 cr hrs.			Advanced study for students in specialized programs.		
5007 Advanced Sculpture I			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
Group studio with conceptual and material emphasis led by rotating area faculty. Course may have special topic focus.	U G	3	5193.30 Individual Studies - Glass	U G	3
Prereq: 3207 (481), 3307, and 3507, or 480, 481, and 482. Repeatable to a maximum of 9 cr hrs.			Advanced study for students in specialized programs.		
5009 Film/Video III: Topics in Technologies and Strategies			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
Film/Video III is a variable-topics course that focuses in on one set of strategies or technologies touched upon in Film/Video II, offering a much deeper engagement with that particular set of strategies.	U G	3	5193.50 Individual Studies - Photography	U G	3
Prereq: 3009 and 4009. Repeatable to a maximum of 9 cr hrs.			Advanced study for students in specialized programs.		
5019 Film/Video IV: Topics in Theories and Strategies			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
A variable-topics film or video production course focused on a conceptual issue or set of issues related to contemporary film and video practice. May focus specifically on film and video in the context of other arts or on issues with relevance outside of the narrowly defined fields of experimental film or video art.	U G	3	5193.60 Individual Studies - Printmaking	U G	3
Prereq: 3009 and 4009. Repeatable to a maximum of 6 cr hrs.			Advanced study for students in specialized programs.		
5101 Aspects of Art and Technology II			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
Creative and conceptual explorations into technical, aesthetic, and theoretical topics in the field of Art & Technology. Includes interactive installation, biological, surveillance/telepresence, digital narratives, algorithmic, and performance art.	U G	3	5193.70 Individual Studies - Sculpture	U G	3
Prereq: Permission of instructor. Not open to students with credit for 661.01. Repeatable to a maximum of 9 cr hrs.			Advanced study for students in specialized programs.		
5102 Kiln Building			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.		
Advanced studies in the design, fabrication, and uses of gas and electric fueled kilns. Practice in welding and electric wiring skills and the various types of firing methods.	U G	3	5194.10 Group Studies - Art and Technology	U G	3
Prereq: 2502 (340), 2602 (342), 3502 (440), and 3602, or Art 340, 342, and 440; or permission of instructor. Not open to students with credit for 640.			Group studies for students in specialized programs.		
5105 Color Photography			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.		
Introduction to digital color printing from scanned film negatives and RAW digital capture; photography history, color theory, and current aesthetic issues.	U G	3	5194.20 Group Studies - Ceramics	U G	3
Prereq: 3004 or 5275, or permission of instructor. Concur: 5115 (401). Not open to students with credit for 531.			Advanced ceramic studio work developed in consultation with and under close supervision of the instructor.		
			Prereq: Permission of instructor. Not open to students with credit for 691.03. Repeatable to a maximum of 9 cr hrs or 3 completions.		
			5194.40 Group Studies - Painting	U G	3
			Group studies for students in specialized programs.		
			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.		
			5194.70 Group Studies - Sculpture	U G	3
			Group studies for students in specialized programs.		
			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.		
5202 Mold Making			5202 Mold Making	U G	3
Advanced studies in the design, fabrication, and uses of models and molds. Utilizing plaster casting, rubber, and other alternative mold making material to explore the process of prototyping and generating multiples.			Advanced studies in the design, fabrication, and uses of models and molds. Utilizing plaster casting, rubber, and other alternative mold making material to explore the process of prototyping and generating multiples.		
Prereq: 2502 (340), 2602 (342), and 3502 and 3602, or 440 and 442; or permission of instructor. Not open to students with credit for 641.			Prereq: 2502 (340), 2602 (342), and 3502 and 3602, or 440 and 442; or permission of instructor. Not open to students with credit for 641.		

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5205 Large Format Photography	U G	3	5592 Independent Studio - Ceramics	U G	3
Advanced photography projects with emphasis on aesthetics, mechanics, and psychology of large format photography, including zone system controls. Advanced B&W wet lab experience.					
Prereq: 5105 and 5115; or permission of instructor. Concur: 5215. Not open to students with credit for 524.					
5215 Social / Documentary Photography	U G	3	5593 Independent Studio - Glass	U G	3
Advanced production course with emphasis on the conceptual framework underpinning the documentary tradition in historical and contemporary photography.					
Prereq: 5105 (531) and 5115 (695.03), or permission of instructor. Concur: 5205 (524). Not open to students with credit for 695.04.					
5275 Photography Theory	U G	3	5594 Independent Studio - Painting/Drawing	U G	3
Introduction to historic and contemporary theories pertaining to photography.					
Prereq: 3005 (400). Not open to students with credit for 695.11.					
5302 Material Science for Artists	U G	3	5595 Independent Studio - Photography	U G	3
Advanced studio focused on geologic and chemical earth science as it pertains to art. Safe and efficient testing habits will explore applications such as clay and glaze formulation. Parallels will be drawn in metals, glass, paper, and paint.					
Prereq: 2502 (340), 2602 (342), and 3502 and 3602, or 440 and 442; or permission of instructor. Not open to students with credit for 640 and 644.					
5335 Digital Imaging: Input/Output	U G	3	5596 Independent Studio - Printmaking	U G	3
Exploration of the use of digital technologies in creating and printing images with emphasis on aesthetic content and excellent craft.					
Prereq: 5205 (524) and 5215 (695.04), or permission of instructor. Concur: 5225. Not open to students with credit for 695.07.					
5338 Digital Input/Output for Photographers	U G	3	5597 Independent Studio - Sculpture	U G	3
Learning to control means of input, manipulation while in and output from the computer and encourage the creation of new work.					
Prereq: Jr standing, and enrollment in Art major. Not open to students with credit for 695.07.					
5345 Alternative Camera Systems	U G	3	5797 Study Tour Foreign	U G	3
Advanced production course exploring alternative imaging systems such as pinhole cameras, plastic lens cameras, low end digital still and video cameras, instant film cameras, etc. Wet lab with limited digital lab access.					
Prereq: 5205 (524) and 5215 (695.04), or permission of instructor. Concur: 5235. Not open to students with credit for 695.08.					
5346 Advanced Printmaking - Lithography and Screenprinting	U G	3	5798 Study Tour Domestic	U G	3
An intensive exploration of the lithographic and screenprinting processes as means for individual expression.					
Prereq: 4016 (477) and 4036 (479), or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.					
5402 Ceramic Art History	U G	3	5881 Odysseus in the Oculus Rift	U G	3
Advanced ceramic course designed specifically to give the student an understanding of historical forms and technical processes.					
Prereq: 2502 (340), 2602 (342), 3502 (440), or 3602 (442), or permission of instructor. Not open to students with credit for 647.					
5445 Alternative Processes in Photography	U G	3	5890 Special Topics in Art	U G	3
Advanced production and study of antique and alternative processes in photography such as non-silver emulsions, through the creation of a cohesive body of work.					
Prereq: 5225, 5235, 695.07, or 695.08; or written permission of instructor. Concur: 4995 or 690. Not open to students with credit for 695.06.					
5501 Video Art I	U G	3	5895 Special Topics	U G	3
Introduction to the creation and analysis of video artwork; including techniques of video capture, post production, manipulation and critique within the context of art.					
Prereq: 2000, 2400, 2555, 2501, 200, 208, or 300.02, or HistArt 260, or Dance 357, or Theatre 100. Repeatable to a maximum of 6 cr hrs.					
5502 Special Projects - Ceramics	U G	3	5903 Advanced Glass Studio Practice	U G	3
Advanced ceramic studio work developed in consultation with and under close supervision of the instructor.					
Prereq: 2502, 2602, 3502, 3602, 340, 342, 440, or 442; or permission of instructor. Not open to students with 20 qtr cr hrs for 645. Repeatable to a maximum of 9 cr hrs.					
5551 Video Art II	U G	3	5995 Imagemakers' Seminar	U G	3
Intermediate theory and practice of creating video artwork. Emphasis on personal expression and experimental approaches.					
Prereq: 4001, or permission of instructor. Repeatable to a maximum of 6 cr hrs.					
5558 Book Arts	U G	3	6008 Directed Studies in Studio Art	G	1 - 3
Exploration of the history and aesthetics of handmade artist books with emphasis on structure, sequence, and the relationship of image to text.					
Prereq: Sr standing in Art, or written permission of instructor. Not open to students with credit for 695.05.					
5591 Independent Studio - Art and Technology	U G	3	6018 Interdisciplinary Seminar - Practices in Contemporary Art	G	3
Advanced studio practice in art and technology.					
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.					
6691 Foundational Studio Practice - Art and Technology	G	1 - 5	6108 Graduate Teaching Seminar	G	3
Studio practice in Art and Technology.					
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.					

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6692 Foundational Studio Practice - Ceramics	G	1 - 5	7791 Intermediate Studio Practice - Art and Technology	G	1 - 5
Advanced studio practice in ceramics. Prereq: Permission of instructor. Not open to students with 12 cr hrs for 691.03. Repeatable to a maximum of 12 cr hrs or 4 completions.			Graduate level studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		
6693 Foundational Studio Practice - Glass	G	1 - 5	7792 Intermediate Studio Practice - Ceramics	G	1 - 5
Advanced studio practice in glass. Prereq: Permission of Instructor. Not open to students with 12 cr hrs for 691.04. Repeatable to a maximum of 12 cr hrs or 6 completions.			Graduate level studio practice. Prereq: Permission of instructor. Not open to students with 12 cr hrs for 691.03. Repeatable to a maximum of 12 cr hrs or 4 completions.		
6694 Foundational Studio Practice - Painting	G	1 - 5	7793 Intermediate Studio Practice - Glass	G	1 - 5
Advanced studio practice in painting. Repeatable to a maximum of 12 cr hrs or 4 completions.			Graduate level studio practice. Prereq: Permission of instructor. Not open to students with 12 cr hrs for 691.04. Repeatable to a maximum of 12 cr hrs or 4 completions.		
6695 Foundational Studio Practice - Photography	G	1 - 5	7794 Intermediate Studio Practice - Painting	G	1 - 5
Advanced studio practice in photography. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.			Graduate level studio practice. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs or 4 completions.		
6696 Foundational Studio Practice - Printmaking	G	1 - 5	7795 Intermediate Studio Practice - Photography	G	1 - 5
Advanced studio practice in printmaking. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.			Graduate level studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		
6697 Foundational Studio Practice - Sculpture	G	1 - 5	7796 Intermediate Studio Practice - Printmaking	G	1 - 5
Advanced studio practice in sculpture. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.			Graduate level studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		
6891 MFA Studio Critique: Art and Tech	G	1	7797 Intermediate Studio Practice - Sculpture	G	1 - 5
Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			Graduate level studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		
6892 MFA Studio Critique: Ceramics	G	1	7999.01 Research in Art - Thesis Advising	G	1
Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			Research for thesis purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.		
6893 MFA Studio Critique: Glass	G	1	7999.02 Research in Art - Thesis Exhibition	G	1
Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			Research in preparation for Thesis Exhibition. Prereq: Permission of instructor. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.		
6894 MFA Studio Critique: Painting / Drawing	G	1	7999.03 Research in Art - Thesis Writing	G	2
Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			Research and writing for thesis purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.		
6895 MFA Studio Critique: Photography	G	1	8194 Advanced Group Studies - Art	G	1 - 3
Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			Group studies for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.		
6896 MFA Studio Critique: Printmaking	G	1	8301 Advanced Video Art I	G	3
Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			Creation and analysis of video artwork; including techniques of video capture, post production, manipulation and critique within the context of art. Prereq: 2000 (200), 2400, 2501, 2555, 2501, 208, 300.02, Dance 357, HistArt 260, or Theatre 100. Repeatable to a maximum of 6 cr hrs.		
6897 MFA Studio Critique: Sculpture	G	1	8351 Advanced Video Art II	G	3
Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			Theory and practice of creating video artwork. Emphasis on personal expression and experimental approaches. Prereq: 4001, or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
7108 Seminar in Studio Art	G	1 - 3	8891 Advanced Studio Practice Art and Technology	G	1 - 3
Presentations by students, faculty, and visiting artists, with critical discussion emphasizing contemporary issues. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			Advanced graduate studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		
7194 Intermediate Group Studies - Art	G	1 - 3	8892 Advanced Studio Practice - Ceramics	G	1 - 3
Group studies for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.			Advanced graduate studio practice. Prereq: Permission of instructor. Not open to students with 12 cr hrs for 691.03. Repeatable to a maximum of 12 cr hrs or 4 completions.		
7208 Research and Writing for Artists	G	3	8893 Advanced Studio Practice - Glass	G	1 - 5
A graduate-level seminar emphasizing research and writing strategies for the required MFA thesis as well as other writing that artists may have to undertake.			Advanced graduate studio practice. Prereq: Permission of instructor. Not open to students with 12 cr hrs or 4 completions for 691.04. Repeatable to a maximum of 12 cr hrs or 4 completions.		
			8894 Advanced Studio Practice - Painting	G	1 - 3
			Advanced graduate studio practice. Repeatable to a maximum of 12 cr hrs or 4 completions.		
			8895 Advanced Studio Practice - Photography	G	1 - 3
			Advanced graduate studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		
			8896 Advanced Studio Practice - Printmaking	G	1 - 3
			Advanced graduate studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		

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8897	Advanced Studio Practice - Sculpture	G	1 - 3	4000	Pedagogies of Critical Multiculturalism in Teaching Visual Culture	U	3
Advanced graduate studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.							
Art Education							
1600	Art and Music Since 1945	U	3	4100	Processes of Making and Responding to Art	U	3
A survey of the visual arts and music in the western world since 1945, based on live and recorded performances and exhibitions.				Investigating the interrelationship of social and visual cultural issues and their impact on the curriculum and teaching practice.			
Prereq: Not open to students with credit for 160. GE VPA course.				Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 601 or 605. Admis Cond course.			
2100	Introduction to Arts Management	U	3	4100	Processes of Making and Responding to Art	U	3
This Introduction to Arts Management is a survey of non-profit and for profit arts management topics and issues. Students will examine members of the creative sector in various fields within the arts and cultural sector and what their impact is on the global marketplace. Using scholarly articles and various media, students will identify examples of these individuals around the world.				Interpreting and writing critically about contemporary art, methods, and strategies that enhance student artmaking.			
2250	Introduction to Art Education	U	3	Prereq: Art Education Licensure students, or permission of instructor.			
Ideas, issues, and career possibilities in art education explored through readings, dialogue, and site visitation.				4189.02	Teaching Practicum: Pre K-12	U	12
Prereq: Not open to students with credit for 225.				Field-based teaching practicum at the prekindergarten through Grade 12 levels.			
2367.01	Visual Culture: Investigating Diversity & Social Justice	U	3	Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 786 or 787. Admis Cond course.			
A study of the artists, the artworks, and art worlds from diverse ethnic cultures in North America.				4191	Internship	U	1 - 9
Prereq: English 1110, and Soph standing. Not open to students with credit for 367.01 or 2367.01H (367.01H). GE writing and comm course: level 2 and VPA and diversity soc div in the US course.				Students intern at non-public school sites to synthesize and apply what they have learned in the classroom through concentrated practice in the field.			
2367.01H	Visual Culture: Investigating Diversity & Social Justice	U	3	Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			
A study of the artists, the artworks, and art worlds from diverse ethnic cultures in North America.				4193	Individual Studies	U	1 - 9
Prereq: Honors standing, English 1110, and Soph standing. Not open to students with credit for 2367.01 (367.01) or 367.01H. GE writing and comm course: level 2 and VPA and diversity soc div in the US course.				Individual studies and project work in specified problems in the field of art education.			
2367.02	Writing Art Criticism	U	3	Prereq: Written permission. Not open to students with credit for 493. This course is graded S/U.			
Focuses on critical literacy and writing about contemporary American art by a variety of artists with diverse points of view.				4194	Group Studies	U	1 - 12
Prereq: English 1110, and Soph standing. Not open to students with credit for 367.02. GE writing and comm course: level 2.				Group studies and project work in specified problems of the field of art education.			
2367.03	Criticizing Television	U	3	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
A critical analysis of a wide variety of television programs through viewing, discussing, reading, and writing.				4200	Concepts for Planning Art Education Curricula	U	3
Prereq: English 1110, and Soph standing. Not open to students with credit for 367.03 or Theatre 2367.03 (367.03). GE writing and comm course: level 2 and diversity soc div in the US course. Cross-listed in Theatre.				Planning for and management of the social and physical environment of art education.			
2520	Digital Artmaking	U	3	Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 607. Admis Cond course.			
Introductory study of digital artmaking through interpreting contemporary artists, constructing a language of art critique, and producing images using graphic design software.				4300	History & Philosophy of Art Education, Schools, and Society	U	3
GE VPA course.				History of the field with an emphasis on major ideas in philosophy and learning theory that affect current trends.			
2520S	Digital Artmaking	U	3	Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 603. Admis Cond course.			
Introductory study of digital artmaking through interpreting contemporary artists, constructing a language of arts critique, and producing images using graphic design software.				4400	Art Education for Children with Special Needs	U	3
Prereq: Not open to students with credit for 252. GE VPA course.				Strategies that can be used in teaching art to students with special needs and lesson planning for inclusion.			
2550	Introduction to Visual Culture: Seeing and Being Seen	U	3	Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 608. Admis Cond course.			
An introduction to issues of representation, spectacle, surveillance, and voyeurism, explored through a range of visual images and sites.				4491	Applied Research	U	1 - 6
Prereq: Not open to students with credit for 255. GE cultures and ideas and diversity soc div in the US course.				Studies in empirical, philosophical, curriculum, and studio problems in art education.			
3680	Exploring the Creative Industry: Arts Issues in the 21st Century	U	3	Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.			
Explores the relationships within the creative sector; Artistic workforce, contemporary art trends, organizational structure and variety within the industries.				4495	Seminar on Topical Issues in Art Education	U	1 - 9
Prereq: Not open to students with credit for 480.				Seminar on topical issues in art education.			
3681	Managing Non-profit Arts Organizations: Balancing Continuity & Change	U	3	Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			
Introduces the purposes of non-profit organizations and their functions such as governance, program planning, marketing, and fundraising; encourages critical thinking in managerial decision making through practical assignments.				4500	Clinical Experience	U	3
Prereq: Not open to students with credit for 481.				Contact with practicum sites and collaborative work with cooperating teachers to plan and deliver instruction.			
3900	Art & Curriculum Concepts for Teachers	U	2	Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 689. Admis Cond course.			
Problems of teaching in terms of personal knowledge about art, insight into children's art work, and understanding of elementary school curriculum.				4674	The City As Art	U	3
Prereq: Not open to students with credit for 600. Not open to art education teacher-candidates. Admis Cond course.				This course will examine the ways that cities throughout the world integrate arts and culture into their planning, as well as whether being a cultural city can build the brand, draw new residents and attract visitors. We will investigate cultural tourism, urban cultural policy and temporary built culture such as festivals and fairs. Team-taught w/ faculty in CRP.			
Prereq: Jr or Sr standing. Not open to students with credit for CRP 4674. Cross-listed in City and Regional Planning.				4740	Docent Training	U	3
Prereq: Permission of instructor.				Introduces students to theory and techniques of teaching in museum galleries at the Wexner Center for the Arts. Students are trained to lead tours by studying contemporary art, tour planning strategies and interactive techniques.			
Prereq: Permission of instructor.				4900	Teaching Seminar	U	3
Concurrent to teaching practicum.				Prereq: Art Education Licensure students, or permission of instructor. Admis Cond course.			
Prereq: Art Education Licensure students, or permission of instructor. Admis Cond course.				4998	Creative Activity in Art Education: Undergraduate Scholarship	U	1 - 9
Undergraduate scholarship.				Repeatable to a maximum of 9 cr hrs or 2 completions. This course is graded S/U.			

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4999 Thesis Research	U 1 - 9	5797.01 Study at a Foreign Institution	U G 1 - 9
A program of reading and research arranged for each student, with individual conferences and reports and thesis.		An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees in excess of Ohio State tuition, as well as all travel and subsistence costs.	
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 2 completions. This course is graded S/U.		Repeatable to a maximum of 15 cr hrs or 5 completions.	
4999H Honors Thesis Research	U 1 - 9	5797.02 Exploring Jamaican Arts and Culture	U G 3
A program of reading and research arranged for each student, with individual conferences and reports and honors thesis.		Focuses on arts and cultural practices in schools, colleges, museums, and cultural institutions in Jamaica. Students explore and analyze policies, practices, content, and pedagogies of the arts in Jamaica in comparison and contrast with our understandings of such in the United States.	
Prereq: Honors standing, and permission of instructor. Not open to students with credit for 783H. Repeatable to a maximum of 9 cr hrs or 2 completions. This course is graded S/U.			
5367 Reel Injuns: Identity and Representation	U G 3	5798.01 Study Tour: Domestic	U G 1 - 9
Introduces broad range of issues, theories, and practices of visual culture within the gaze of American Indians and how reaction to or rejection shapes indigenous identities, as well as non-Native understandings of American Indians. This course will explore action research practices, historical research methodologies, and critical readings.		Specific content, location, semesters of offering, and prerequisites vary; contact department office for details. Repeatable for differently titled study tours only.	
Prereq: Not open to students with credit for 3367.		Repeatable to a maximum of 27 cr hrs or 3 completions.	
5670 Public Policy and the Arts	U G 3	5798.02 Cultural Equity, Arts Policy & Advocacy in Puerto Rico	U G 3
Introduction to the purposes, rationales, interests, issues, political dynamics, and performance of agency/programs in the U.S. cultural policy system.		This course is a special course of study for those interested in the impact & role of cultural arts in engaging issues of social justice within communities. Renowned community experts and scholars culturally grounded in the arts, public policy and advocacy will present and engage with students on best practices that have made positive and significant contributions to diverse communities.	
Prereq: Not open to students with credit for 670.			
5671 Organizational Leadership in the Nonprofit Arts	U G 3	6998 Research for Non-thesis	G 1 - 9
Students will be assisted in enhancing their knowledge and ability to take responsible leadership roles in non-profit arts organizations and as a major constituent of public arts agencies.		Research for non-thesis purposes only.	
Prereq: Not open to students with credit for 671.		Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs. This course is graded S/U.	
5672 Managing Cultural Policy Change	U G 3	6999 Research for Thesis	G 1 - 9
Planning and executing strategic change in public arts agencies. Explores implications of shifting from a supply/demand to a value-based cultural policy paradigm.		Research for thesis purposes only.	
Prereq: Not open to student with credit for 672.		Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 9 completions. This course is graded S/U.	
5673 Symposium Issues	U G 3	7000.10 Concepts, Theories, and Issues in Art Education	G 3
Explores new ideas or changing arts policy issues through readings and visiting experts to prepare students for participation in biennial scholarly symposium. This is a spring course plus a symposium in May.		Review of analytical reading and writing; overview of topics for art education research; graduate faculty research; national and international issues; research resources. Must be taken during the first year of graduate study.	
Repeatable to a maximum of 9 cr hrs		Prereq: Not open to students with credit for 700.	
5674 The Creative Sector and Creative Cities	U G 3	7000.20 Concepts, Theories, and Issues in Arts/Culture Policy	G 3
Examines policy experiences of U.S. and other countries pertaining to the composition, workforce, and support systems of the creative industries across non-profit, commercial, community, and embedded settings.		Review of analytical reading and writing; overview of topics for arts policy & admin. research; graduate faculty research; national and international issues; research resources. Must be taken during the first year of graduate study.	
5675 International Cultural Relations	U G 3	7100 Histories and Policies of Arts Education	G 3
Explores cultural exchange as a policy tool of international cultural engagement, nation branding, and cultural diplomacy. Also considers international festival and exhibitions, cultural trade, and international collaboration.		Students explore arts/education history while developing skills in researching cultural practices, programs and protocols, and analyzing the impact of arts programs/initiatives and social interventions on citizens and communities.	
5682 Nonprofit Arts Institution Governance and Board Leadership	U G 3	Prereq: Not open to students with credit for 701 or 704.	
Research-based, practical exploration of nonprofit boards critically examines governance policies and practices; specifically focusing on management, board and staff relations and issues of accountability.		7200.10 Introduction to Research Methodologies and Methods	G 3
Prereq: Not open to students with credit for 782.		Introduction to research philosophies, methodologies and methods in arts education, policy, and administration.	
5683 Developing Arts Careers: Positioning Passion	U G 3	Prereq: Open to students with credit for 705.	
Prepares students as entrepreneurs to enter nonprofit, commercial, public and/or academic careers through independent investigation, dossier development, research proposals, and grant writing.		7200.20 Overview of Research Planning for Arts Policy & Administration	G 3
Prereq: Not open to students with credit for 683.		Introduction to a range of research resources and methods applicable to APA students including historical, case studies, surveys & interviews. Using the literature to frame research questions, build a conceptual framework and inform research plan.	
5684 Arts Participation, Cultural Literacy, and Audience Development	U G 3	Prereq: Not open to students with credit for 705 or 809.	
Building on empirical and theoretical research, this course constructs a framework to understand audience participation, understanding and reception of specific art forms.		7200.30 Overview of Research for Arts Educators	G 3
Prereq: Not open to students with credit for 781.		Introduction to a broad range of qualitative educational research methodologies in the field of art education, mainly in an art teacher's classroom, a museum setting, or community arts space. Includes research terminology and methodologies, data collection methods, and discusses the power of teachers as researchers in their own classrooms. Practices collecting and analyzing data.	
5685 Arts/Cultural Organizations: Resource Management & Revenue Streams	U G 3	7300 Introduction to Teaching Arts Education at the College Level	G 2
An analysis of current issues in resource management and revenue streams available to arts & cultural organizations, and its application to marketing and development practice.		An introduction to theories, methods and issues related to teaching arts education at the college level.	
5686 Cultural Program Design, Implementation, and Evaluation	U G 3	Prereq: New or recently reassigned ARTEDUC GTAs, or permission of instructor. Not open to students with credit for 707.	
Research of program theory, design, and their application implementation.		7604 Teaching of Studio Activities	G 3
5708 Disability and Visual Culture: Issues of Representation in Art and Popular Culture	U G 3	Exploration of instructional application of various art materials for educational settings.	
An examination of representational issues surrounding disability including popular culture, art, and artistic self-representation.		Prereq: Not open to students with credit for 604.	
5795 Seminar on Topical Issues in Art Education.	U G 3	7606 Technology and Digital Texts	G 3
Seminar on topical issues in Art Education.		Theory and practice of engaging others in technologies and digital texts relative to art education practice.	
Repeatable to a maximum of 30 cr hrs.		Prereq: Not open to students with credit for 606.	

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7607 Curriculum Planning and Assessment in Art Education	G	3	7795 Seminar on Topical Issues in Art Education	G	3			
Introduction to curriculum development including artmaking practices and assessment strategies.								
Prereq: Not open to students with credit for 604, 607 or 731.								
7681 Arts/Cultural Institutions, Organizational Theories & Management Practice	G	3	7890 Colloquium	G	1½			
Building on organizational theories, this course examines the purpose and function of arts and cultural institutions and current management practices in the creative sector.								
Prereq: Not open to students with credit for 681.								
7701 Contemporary Theory and Art Education	G	3	8191.01 Internship in Arts Management	G	1 - 9			
Investigation of contemporary theory from an interdisciplinary perspective and the implications for art education.								
7707 Action Research Theory and Practice	G	3	8191.02 Art and Cultural Policy Internship	G	1 - 9			
Exploration of action research theories and practices in school, community, and organizational settings.								
7708 Universal Design for Learning: Disability Studies and Art Education	G	3	8191.03 Internship in Museum Education	G	1 - 9			
This course explores Universal Design for Learning in Art Education for the purposes of enhancing the learning experiences of students with disabilities and all learners and makes practical applications to classroom experiences.								
7710 Experimental Writing in Qualitative Research	G	3	8191.04 Community Arts Internship	G	1 - 9			
Offers readings, discussion, and practice in writing new texts that expand the conception of qualitative research. Students engage in workshops with peers and established arts-informed writers. Completion of one qualitative research course is recommended but not required for enrollment.								
7725 Re-imagining Research Writing Through Creative Inquiry	G	3	Supervised professional experience in a community setting that provides programs addressing arts education.					
This trans-disciplinary writing seminar encourages graduate researchers to develop a philosophy and practice of writing that reflects a full range of scholarly expression. Beginning with a review of expository writing, students engage with the theory and practice of shaping new ways to conceive of and write scholarly research in their respective disciplines.								
7735 Museum History	G	3	Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.					
Critical examination of the historic and theoretical foundations of art and other museums as an institution, drawing on multiple disciplinary perspectives. Counts toward Museum Education specialization.								
Prereq: Not open to students with credit for 735.								
7736 Museums and Teaching	G	3	8194 Group Studies	G	3			
A theoretical and practical study of teaching and learning in and through museums. Counts toward Museum Education specialization.								
Prereq: Not open to students with credit for 736.								
7740 Docent Training	G	3	8798.02 Study Tour Foreign	G	1 - 9			
Introduces students to theory and techniques of teaching in museum galleries at the Wexner Center for the Arts. Students are trained to lead tours by studying contemporary art, tour planning strategies and interactive techniques.								
Prereq: Permission of instructor.								
7748 Museum Education Practicum	G	3	Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Foreign. Repeatable for different study tours only. Repeatable to a maximum of 12 cr hrs.					
An examination of the role of education in art museums through an in-depth experience in a museum setting. Counts toward Museum Education specialization.								
Prereq: Not open to students with credit for 748.								
7756 Semiotics and Visual Culture	G	3	8911 Research Problems in Art Education	G	1 - 9			
Traditional and contemporary theories of semiotics applicable to visual culture. Understanding how cultural meanings are created, maintained and habits are shifted.								
7764 Investigating Material Culture	G	3	Research problems in Art Education.					
Investigates the relationship between people and objects including scientific analysis of materials, skill of maker, use, cultural importance and meaning. Core course for graduate interdisciplinary specialization in the Analysis of Material Culture.								
Prereq: Not open to students with credit for 764.								
7766 Exploring Practices of Meaning Making and Artmaking	G	3	8998 Research for Candidacy Examination	G	1 - 9			
Exploring meaning making practices and artmaking through materiality, play, and affect. Theoretical perspectives derive from Deluzian philosophy, semiotics, and poststructuralist theory.								
7767 Critical Analysis of Multicultural Art Education	G	3	Research for candidacy examination.					
Investigation and analysis of multicultural theories, issues, and practices for art education.								
Prereq: Not open to students with credit for 767.								
7777 Research to Advocacy	G	3	8999 Research for Dissertation	G	1 - 9			
This course engages practicing arts educators in developing effective advocacy strategies, arguments and approaches grounded in reliable research and assessment measures.								
Educators clearly communicating these measures can effectively leverage them in persuading administrators, parents and policy makers to energetically support and advance the critical work of arts education.								

Arts and Sciences

1100.01 Arts and Sciences Survey: General	U	1
Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services.		
Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.		
1100.01H Arts and Sciences Survey: General (Honors)	U	1
Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services.		
Prereq: Honors standing, or permission of instructor or department. Not open to students with credit for any College Survey 100.XX course. This course is graded S/U.		
1100.02 Arts and Sciences Survey: Special	U	1
Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services.		
Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.		
1100.03 Arts and Sciences Survey: PASS	U	1
Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services.		
Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.		

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1138.34 First-Year Seminar	U 1	2194 Interdisciplinary Group Studies	U 1 - 3
Affords first-year students the opportunity for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit.		Study of special or interdisciplinary topics at an introductory level. 2194H (honors) may be available.	
Prereq: Fresh standing, or permission of instructor. Only one First-Year Seminar per semester allowed. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.		Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.	
1138.35 First-Year Seminar	U 1	2194H Interdisciplinary Group Studies	U 1 - 3
Affords first-year students the opportunity for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit.		Study of special or interdisciplinary topics at an introductory level.	
Prereq: Fresh standing, or permission of instructor. Only one First-Year Seminar per semester allowed. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.		Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.	
1138.36 First-Year Seminar	U 1	2400 Conversations on Morality, Politics, and Society	U 3
Affords first-year students the opportunity for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit.		Students will explore the topic of the COMPAS program from a variety of disciplinary perspectives and be required to attend or to view recordings of the various COMPAS events. GE culture and ideas course.	
Prereq: Fresh standing, or permission of instructor. Only one First-Year Seminar per semester allowed. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			
1138.37 First-Year Seminar	U 1	2400E Conversations on Morality, Politics, and Society	U 3
Affords first-year students the opportunity for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit.		Students explore the COMPAS program topic from a variety of perspectives and attend or view recordings of various COMPAS events. They also complete additional readings, have 5-6 hours of meetings with the instructor, and write a term paper.	
Prereq: Fresh standing, or permission of instructor. Only one First-Year Seminar per semester allowed. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.		Prereq: Honors standing, or permission of instructor. GE cultures and ideas course.	
1138.38 First-Year Seminar	U 1	2797.02 Contemporary India	U 3
Affords first-year students the opportunity for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit.		This interdisciplinary course introduces students to contemporary India, with a focus on the foundational diversities of Indian society, culture, religion, politics, and economy. Students will also critically reflect on how their study abroad has impacted their understanding of India and our contemporary world.	
Prereq: Fresh standing, or permission of instructor. Only one First-Year Seminar per semester allowed. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.		GE education abroad course.	
1138.39 First-Year Seminar	U 1	2798.02 Study Tour: Foreign	U 1 - 10
Affords first-year students the opportunity for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit.		Specific content, location, semesters of offering, and prerequisites vary; contact department office for details. Repeatable for differently titled study tours only. Non GE.	
Prereq: Fresh standing, or permission of instructor. Only one First-Year Seminar per semester allowed. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.		Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions.	
1138.40S First-Year Seminar	U 1	2798.03 Study Tour: Introduction to the History, Politics, and Culture of Great Britain	U 3
Affords first-year students the opportunity for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit.		This interdisciplinary study tour introduces students to the History, Politics, and Culture of Great Britain. An examination of certain core British institutions, traditions, and problems mainly through the lens of imaginative literature - especially poetry and short stories - but will also incorporate other kinds of sources.	
Prereq: Fresh standing, or permission of instructor. Only one First-Year Seminar per semester allowed. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.		GE education abroad course.	
1191 Non-Credit Internship	U 0	2798.04 Introduction to Quebec	U 3
Internship conducted under the supervision of the employer; enrollment and evaluation coordinated by ASC Career Services. Student is responsible for finding the internship prior to the start of the term. Requires permission to enroll.		This interdisciplinary course introduces students to the history and culture of Quebec with time spent in Montreal, Ottawa, and Quebec City. The course examines core institutions and traditions through lecture, discussion and experiential learning of the region's history, politics, literature, geography and science.	
Prereq: GPA 2.0 or above. Repeatable to a maximum of 6 completions. This course is graded S/U.		Prereq: Permission of instructor. GE education abroad course.	
1900 Career Readiness for Arts & Sciences Majors	U 1	2798.05 Cuba: Race, Revolution, and Culture	U 3
Broaden understanding of career fields and learn about how to increase readiness for obtaining work related to career goals. Also covers writing resumes, obtaining internships, and effective strategies for finding employment for after graduation.		This course analyzes the role of race and culture in the formation of contemporary Cuban politics and national identity, with emphasis on Cuba's African roots and attention to the role of the arts as a means of resistance to social injustice. Instruction is at the Newark campus (3 weeks) and in Cuba (10 days in Havana and Varadero).	
Prereq: Not open to students with credit for 400.01 or ESCE 2271 (EduPAES 270.01). This course is graded S/U.		Prereq: Permission of instructor. GE education abroad course.	
2000.01 Arts Scholars Seminar	U 1	2798.06 The Past, Present, and Future of Liverpool	U 3
This seminar course is designed for first year arts scholars students and explores arts interests, interdisciplinary opportunities, campus and local community arts connections.		This interdisciplinary study tour introduces students to the history, literature, and culture of Liverpool, England. The course examines core institutions, traditions, and issues through lecture, discussion, and experiential learning of government, literature, history, culture, and other relevant materials.	
Prereq: Enrollment in Scholars program, and permission of instructor. Repeatable to a maximum of 2 cr hrs.		Prereq: Permission of instructor. GE education abroad course.	
2000.02 Humanities Scholars Seminar	U 1	3142.01 Online Research and the Science Literature	U 2
Designed for the first year Humanities Scholars to explore personal humanities interests, interdisciplinary opportunities, campus and local humanities resources, and cultural topics in the humanities.		Searching techniques, information resource types, and evaluation of online science information resources. Designed for life/physical sciences and engineering students. See: http://liblearn.osu.edu/courses	
Prereq: Acceptance into the Humanities Scholars Program, or permission of the instructor.		Prereq: Not open to students with credit for 314.	
2120 Information Search, Evaluation and Use	U 2	3191.01 For-Credit Internship	U 1 - 12
Seven week course covers internet browsing, online information organization and management, and effective search and evaluation strategies. See: http://liblearn.osu.edu/courses .		Internship conducted under the supervision of the employer; grade determined by ASC faculty member. Student must obtain the internship before the start of the term, and a signed learning agreement approved by faculty member and employer by first day. Enrollment in an academic department internship course is not permitted during the same term.	
Prereq: Not open to students with credit for 120.		Prereq: GPA 2.50 or above, and Soph standing or above. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.	
2121 Academic Online Research	U 2	3191.02 Internship & Career Exploration	U 1 - 2
Web tools, article databases, concepts, and issues related to finding academic and scholarly information in a chosen field. See: http://liblearn.osu.edu/courses .		Internship under the supervision of the employer, and enrollment and evaluation coordinated by ASC Career Services. Student must obtain the position, and signed agreements by employer and instructor, prior to the start of the term. Assignments vary.	
Prereq: 2120 (120). Not open to students with credit for 121.		Prereq: GPA 2.50 or above, and Soph standing or above. Enrollment in an academic department internship course is not permitted during the same term. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.	
2193 Individual Studies	U 1 - 3		
Individual Studies for undergraduate students.			
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.			

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4194 Interdisciplinary Group Studies U 1 - 3

Study of special or interdisciplinary topics at the upper-division level. 4194H (Honors) may be available.
Prereq: Jr or Sr standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

4194H Interdisciplinary Group Studies U 1 - 3

Study of special or interdisciplinary topics at the upper division level.
Prereq: Honors standing, and Jr or Sr standing; or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4870 The Ohio State University: Its History and Its World U 3

An introduction to the past and present of OSU, its importance, its disciplines, the interrelations of the academic and other components of the institution, and the contributions over the years of OSU to the wider world.
Prereq: Not open to students with credit for 500. GE cultures and ideas course.

4998 Undergraduate Research in the Arts and Sciences U 0 - 10

Undergraduate research or creative activities in variable topics.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

5194 Group Studies U G 1 - 3

Study of special or interdisciplinary studies. 5194H (honors) may be available.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5194H Group Studies U G 1 - 3

Study of special or interdisciplinary studies.
Prereq: Honors standing, or permission of department or instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

5797 Study at a Foreign Institution U G 1 - 18

An opportunity for students to study at a foreign institution and receive OSU credit for work completed there. Students will pay OSU fees and any fees in excess of OSU tuition, as well as all travel and subsistence costs.
Prereq: Permission of department chairperson. Repeatable to a maximum of 54 cr hrs or 3 completions.

6110 Health Literacy G 2

Examine and analyze issues of low health literacy, including populations at risk, research, measurement tools, writing in plain language; health communication techniques; and organizational approaches.

Prereq: Grad standing. Not open to students with credit for 709, Nursing 6110 (710), Phr 7090 (Pharmacy 709), AlliMed 7010 (710), or MedColl 7710 (710). Cross-listed in Phr 7090, Nursing 6110, AlliMed 7010, and MedColl 7710.

6750 Multidisciplinary Seminar for Artists G 3

A multidisciplinary seminar for graduate students in the arts throughout the university, in which we will look at the process of art-making through the lens of each medium as well as the wider lens we can provide as a group.

Prereq: Not open to students with credit for 750.

8194 Group Studies G 1 - 3

Study of special or interdisciplinary topics at the graduate level.
Repeatable to a maximum of 9 cr hrs or 3 completions.

Asian American Studies

4998 Undergraduate Research U 1 - 4

Undergraduate research in variable topics related to Asian American Studies. Student-initiated projects.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4998H Undergraduate Honors Research U 1 - 4

Undergraduate honors research in variable topics related to Asian American Studies. Student-initiated projects.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4999 Undergraduate Research: Thesis U 1 - 4

A program of reading, research, writing, and/or creative work arranged for each student, with individual conferences, progress reports, and thesis.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

4999H Honors Thesis Research U 1 - 4

A program of reading, research, writing, and/or creative work arranged for each student, with individual conferences, progress reports, and honors thesis.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

5191 Internship U G 1 - 3

Workplace experience requiring writing and/or research.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5193 Individual Studies U G 1 - 3

Individual directed study for work not typically offered in courses.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5194 Group Studies U G 1 - 3

Directed study of an Asian American topic not regularly offered in classes.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

5700 Asian American Studies Workshop U G 1 - 3

Structured participation in seminar or event organized for that semester.
Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

Astronomy

1101 From Planets to the Cosmos (With Lab) U 4

Overview of the Copernican revolution, the discovery of the nature of our solar system, light, gravity, and planets around other stars; the nature and evolution of stars and origin of the chemical elements; the history of galaxies and the expanding universe. Weekly laboratory. Not recommended for students who plan to major in astronomy or physics.
Prereq: Math 1050 (075) or 102, or an ACT math subscore of 22 or higher that is less than two years old, or Math Placement R or higher; or permission of instructor. Not open to students with credit for 1140, 1144, 1161H (H161), 1162H (H162), 2161H, 2162H, 2291 (291), or 2292 (292). GE nat sci phys course.

1102 From Planets to the Cosmos (No Lab) U 3

Overview of the Copernican revolution, the discovery of the nature of our solar system, light, gravity, and planets around other stars; the nature and evolution of stars and origin of the chemical elements; the history of galaxies and the expanding universe. Not recommended for students who plan to major in astronomy or physics.
Prereq: Math 1050 (075) or 102, or an ACT math subscore of 22 or higher that is less than two years old, or Math Placement R or higher; or permission of instructor. Not open to students with credit for 1101, 1140, 1144, 1161H (H161), 1162H (H162), 2161H, 2162H, 2291 (291), or 2292 (292). GE nat sci phys course.

1140 Planets and The Solar System U 3

Physical nature of the sun and its family of planets, satellites, comets and minor bodies; gravitation, light, and telescopes. Not recommended for students who plan to continue in astronomy or physics.
Prereq: ACT Math Subscore of 22 or higher, or Math Placement Level R or better, or Math 1050 (075) or 102, or permission of instructor. Not open to students with credit for 1161 (161), 1161H (161H), 2291 (291), or 171. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1141 Life in the Universe U 3

Potential for life elsewhere in the universe, based on discovery of extra-solar planets and nature of life on Earth; search strategies for such life.
Prereq: Not open to students with credit for 141. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1142 Black Holes U 3

The nature, formation, and discovery of black holes in the universe.
Prereq: ACT Math Subscore of 22 or higher, or Math Placement Level R or better, or Math 1050 (075), or permission of instructor. Not open to students with credit for 142. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1143 Cosmology: History of the Universe U 3

Description of the history of the universe from Big Bang to present; how observations led to discovery of this history.
Prereq: Not open to students with credit for 2292 (292) or 1162 (162) or 143 or 172. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1144 Stars, Galaxies, and the Universe U 3

Structure, motions, and evolution of stars, interstellar material, galaxies, and the universe as a whole. Not recommended for students who plan to continue in astronomy or physics.
Prereq: ACT Math Subscore of 22 or higher, or Math Placement Level R or better, or Math 1050 (075), 102, or permission of instructor. Not open to students with credit for 2292 (292), 1162 (162), 1162H (162H), or 172. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

2161H Solar System Astronomy U 3

Physical nature of the sun and its family of planets, satellites, comets and minor bodies; gravitation, light, and telescopes. Not recommended for students who plan to continue in astronomy or physics.
Prereq: Honors standing, and Math 1116 (116) or 1148 (148); or permission of instructor. Not open to students with credit for 1140, 1161 (161), 1161H (161H), 2291 (291), or 171. GE nat sci phys course. NS Admis Cond course.

2193 Individual Studies U 1 - 10

Independent library or laboratory work on a special problem or topic in observational or theoretical astronomy.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 3 completions. This course is graded S/U.

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2194	Group Studies	U	1 - 10		6892	Astronomy Seminar II	G	2
	Special studies not otherwise offered.				First and second year graduate students will participate in weekly departmental colloquia and journal club.			
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U.				Prereq: Grad standing in Astron. Not open to students with 8 qtr cr hrs in Astron 802 and/or 803. Students with no more than 4 qtr cr hrs in Astron 802 and/or Astron 803 may take this course only once. This course is graded S/U.			
2291	Basic Astrophysics and Planetary Astronomy	U	3		7810	Order of Magnitude Astrophysics	G	2
	Motions and physical nature of objects in the solar system; electromagnetic radiation, telescopes, and astronomical detectors.				Methods for solution of a wide range of astrophysical problems, building on basic physical principles.			
	Prereq: Physics 1251 (133), or permission of instructor. Not open to students with credit for 291. This course is available for EM credit. GE nat sci phys course.				Prereq: Grad standing in Astron, or permission of instructor. Not open to students with 8 qtr cr hrs in Astron 810. Students with no more than 4 qtr cr hrs in 810 may enroll only once.			
2292	Stellar, Galactic, and Extragalactic Astronomy and Astrophysics	U	3		Repeatable to a maximum of 4 cr hrs. This course is graded S/U.			
	Observational and physical properties of the sun and stars; stellar structure and evolution; interstellar medium; galaxies and cosmology.				7890	Topical Seminars in Astronomy	G	1
	Prereq: 2291 (291), or permission of instructor. Not open to students with credit for 292. This course is available for EM credit. GE nat sci phys course.				Focused seminars on topics and methods of contemporary astronomical research.			
2895	Topics in Astrophysics	U	1		Prereq: Grad standing in Astron, or permission of instructor. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.			
	Prospective astronomy majors will meet weekly with different astronomy faculty to learn about current research topics, facilities, and opportunities available in the undergraduate astronomy program.				8194	Group Studies	G	1 - 5
	Prereq: Not open to students with credit for two sections of 295. This course is graded S/U.				Special topics not otherwise offered.			
3350	Methods of Astronomical Observation and Data Analysis	U	3		Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 20 completions. This course is graded S/U.			
	Astronomical observational techniques and quantitative analysis of astronomical data; practical experience with modern astronomical instrumentation and computer-based reduction, analysis, and interpretation of astronomical data.				8823	Atomic and Radiative Processes in Astrophysics	G	3
	Prereq: 1162 (162), 1162H (162H), or 2292 (292), and Math 1152 (153), and Physics 1251 (133). Not open to students with credit for 350. GE data only course.				Continuum and discrete radiative processes relevant to astrophysics.			
4193	Individual Studies	U	1 - 10		Prereq: Grad standing in Astron; or permission of instructor. Not open to students with credit for 822 and 823.			
	Independent library or laboratory work on a special problem or topic in observational or theoretical astronomy.				8824	Numerical and Statistical Methods in Astrophysics	G	2
	Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 3 completions. This course is graded S/U.				Practical applications of numerical and statistical methods used in modern astrophysics.			
4194	Group Studies	U	1 - 10		Prereq: Grad standing in Astron; or permission of instructor.			
	Special studies not otherwise offered.				8831	Stellar Structure and Evolution	G	3
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U.				Theoretical aspects of the structure and evolution of single stars.			
4998	Non-Thesis Research	U	1 - 10		Prereq: Grad standing in Astron; or permission of instructor. Not open to students with credit for 831.			
	Directed undergraduate research (non-thesis).				8870	Dynamics	G	3
	Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.				Planetary dynamics, stellar dynamics, and astrophysical gas dynamics.			
4998H	Honors Non-Thesis Research	U	1 - 10		Prereq: Grad standing in Astron; or permission of instructor. Not open to students with credit for 825 and 870.			
	Directed undergraduate research (non-thesis).				8871	The Interstellar Medium and the Intergalactic Medium	G	3
	Prereq: Honors standing; and permission of instructor. Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.				The physics of low-density gases, with application to the interstellar medium and the intergalactic medium.			
4999	Thesis Research	U	1 - 10		Prereq: Grad standing in Astron; or permission of instructor. Not open to students with credit for 871.			
	Directed undergraduate research for thesis.				8873	Cosmology	G	3
	Prereq: Permission of department and instructor. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.				Structure and evolution of the universe, physical processes in the early universe, formation of cosmic structure.			
4999H	Honors Thesis Research	U	1 - 10		Prereq: Grad standing in Astron; or permission of instructor. Not open to students with credit for 873.			
	Directed undergraduate research (thesis).				8998	Directed Research in Astronomy and Astrophysics	G	1 - 12
	Prereq: Permission of department and instructor. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.				Directed laboratory or library research under the direction of a faculty member that is not leading directly to a dissertation or thesis.			
5681	Principles of Stellar Evolution and Nucleosynthesis	U G	3		Prereq: Grad standing in Astronomy, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 20 completions. This course is graded S/U.			
	Physics of stellar structure, evolution, and nucleosynthesis.				8999	Research in Astronomy and Astrophysics	G	1 - 12
	Prereq: Math 2174, 2255 (255), or 2415 (415); and Physics 5500 (631); or permission of instructor. Not open to students with credit for 681 or Physics 681.				Research for dissertation or thesis.			
5682	Introduction to Cosmology	U G	3		Prereq: Grad standing in Astronomy, and permission of instructor. Repeatable to a maximum of 20 completions. This course is graded S/U.			
	Structure and evolution of the Universe.							
	Prereq: Math 2174 or 2255 (255) or 2415 (415); and Physics 2301 (263); or permission of instructor. Not open to students with credit for 682 or Physics 682.							
5830	Observed Properties of Astronomical Systems	U G	5					
	Observed properties of planets (including extrasolar planets), the solar system, stars, and both active and quiescent galaxies.							
	Prereq: Permission of instructor. Not open to students with credit for 830.							
6891	Astronomy Seminar I	G	2					
	First and second year graduate students will participate in weekly departmental colloquia and journal club.							
	Prereq: Grad standing in Astron. Not open to students with 4 qtr cr hrs for 801. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.							

Athletic Training

2000	Basic Athletic Training	U	3
	Introduction to profession of Athletic Training, its governing organizations and basic knowledge and skills in prevention, recognition, management and rehabilitation of injuries and illnesses.		
	Prereq: Enrolled in School of Health and Rehabilitation Sciences, or permission of instructor. Not open to students with credit for 303. Admis Cond course.		
2010	Athletic Training Pre-Clinical Skills	U	1
	Instruction and assessment of foundational athletic training skills. Course also includes directed observations in selected athletic training facilities.		
	Prereq or concur: 2000.		
2100	Athletic Training Skills Assessment I	U	1
	Assessment of student mastery in selected Athletic Training Clinical Skills.		
	Prereq: 2300.		
2189	Introduction to Clinical Care in Athletic Training	U	3
	Introduction to clinical field experience in Athletic Training. Includes limited supervised clinical experience in selected Athletic Training facilities.		
	Concur: 2300.		

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2200 Foundations of Athletic Training Diagnosis

U 3

In depth exploration of the morphological and functional changes that are influenced by and result from sport participation, injury, and illness and that are foundational for making accurate diagnoses.

Prereq: Anatomy 2300 or 3300, and admission to the Athletic Training Program.

2289 Athletic Training Clinical Experience First Year Multisite

U 3

Supervised clinical field experience in Athletic Training rotating through multiple selected facilities.

Prereq: 2189.

2300 Athletic Training Diagnosis and Acute Management I

U 3

Pathology, evaluation, diagnosis, on-field care, and management of lower extremity & axial skeleton pathologies by athletic trainers. Special emphasis on management of acute trauma and return to play determinations.

Prereq: 2200.

2310 Athletic Training Diagnosis and Acute Management II

U 3

Pathology, evaluation, diagnosis, on-field care, and management of upper extremity & head pathologies by athletic trainers. Special emphasis on management of acute trauma and return to play determinations.

Prereq: 2300.

3100 Athletic Training Skills Assessment II

U 1

Assessment of student mastery in selected Athletic Training Clinical Skills.

Prereq: 2100.

3110 Athletic Training Skills Assessment III

U 1

Assessment of student mastery in selected Athletic Training Clinical Skills.

Prereq: 3100.

3189 Athletic Training Clinical Experience: Collegiate I

U 5

Supervised Athletic Training clinical experience in the intercollegiate athletics setting. First of three course sequence.

Prereq: 3089.

3289 Athletic Training Clinical Experience: Collegiate II

U 5

Supervised Athletic Training clinical experience in the intercollegiate athletics setting. Second of three course sequence.

Prereq: 3189.

3389 Athletic Training Clinical Experience: Collegiate III

U 1

Supervised Athletic Training clinical experience in the intercollegiate athletics setting. Third of three course sequence.

Prereq: 3289.

3500 Athletic Training Therapeutic Modalities

U 3

Theory and clinical application of physical agents including heat, cold, light, sound, electromagnetic and mechanical energy in treatment and rehabilitation performed by Athletic Trainers.

Prereq: 2310.

3600 Athletic Training Biomechanics

U 3

Theory and clinical application of biomechanics, kinetics, and kinematics by Athletic Trainers in the prevention, diagnosis, management, and rehabilitation of injuries.

Prereq: 2310.

3700 Athletic Training Therapeutic Exercise

U 3

Theory and clinical application of therapeutic exercise in rehabilitation by Athletic Trainers. Prereq: 3500, 3600, and KnHES 5500.

3750 Musculoskeletal Screening and Corrective Techniques

U 1

Use of musculoskeletal screening to identify injury risks and development and implementation of specific strengthening programs to minimize those risks.

Prereq: 3600.

3800 Care of Medical Emergencies, Trauma, and Disease

U 4

Diagnosis, on-field care, and ongoing management of disease and non-orthopedic trauma by athletic trainers. Special emphasis on management of catastrophic injury and on inflammation and repair.

Prereq or concur: 2310.

4100 Athletic Training Skills Assessment IV

U 1

Assessment of student mastery in selected Athletic Training Clinical Skills. Prereq: 3110.

4110 Athletic Training Skills Assessment V

U 1

Assessment of student mastery in selected Athletic Training Clinical Skills. Prereq: 4100.

4120 Athletic Training Skills Assessment VI

U 1

Assessment of student mastery in selected Athletic Training Clinical Skills. Prereq: 4100.

4189 Athletic Training Clinical Experience: High School

U 5

Supervised Athletic Training clinical experience in the high school athletics setting. Prereq: 2189.

4289 Athletic Training Clinical Experience: General Medicine

U 1

Supervised Athletic Training clinical experience in the physician extender/general medical setting. Recommended prereq: 3389.

Prereq: 3289.

4389 Athletic Training Clinical Experience: Elective

U 1 - 12

Elective supervised Athletic Training clinical experience. Intended to provide interested students with additional, non-required clinical practice experiences. Requires pre-approval by AT Division's Director of Clinical Education.

Prereq: Permission of Director of Clinical Education. Repeatable to a maximum of 36 cr hrs or 4 completions.

4500 Administration in Athletic Training

U 3

Administration of Athletic Training programs. Includes management of personnel, budget, facilities, medical records, insurance, legal liability, emergency plans, public relations, and other topics.

Prereq: 3700.

4600 Psychosocial Issues, Identification and Mediation in Physically Active Patients

U 3

Psychosocial theory and facilitation of development. Disorders are outlined to help athletic trainers identify poor coping mechanisms, psychological disorders, mediation and referral strategies and processes.

Concur: 4500.

Atmospheric Sciences

2193 Individual Studies in Atmospheric Sciences

U 1 - 9

Independent studies on selected atmospheric sciences related topics.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

2194 Group Studies in Atmospheric Sciences

U 1 - 3

Special studies on topics directly related to the atmospheric sciences.

Repeatable to a maximum of 15 cr hrs or 5 completions.

2940 Basic Meteorology

U 3

Introduction to the underlying physics of the atmosphere; basic equations of thermodynamics, radiation, and dynamics are presented and used to explain selected atmospheric phenomena.

Prereq: Math 1151 and Physics 1250. Not open to students with credit for 230 or 5900 (520).

4193 Individual Studies in Atmospheric Sciences

U 1 - 9

Independent studies on selected atmospheric science-related topics.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

4194 Group Studies in Atmospheric Sciences

U 1 - 3

Special studies on topics directly related to the atmospheric sciences.

Repeatable to a maximum of 15 cr hrs or 5 completions.

4998 Undergraduate Research in Atmospheric Sciences

U 1 - 9

Undergraduate research on topics in Atmospheric Sciences.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

4998H Honors Undergraduate Research in Atmospheric Sciences

U 1 - 9

Undergraduate research on topics in Atmospheric Sciences.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

4999 Thesis Research

U 1 - 9

A program of research that includes individual conferences and culminates in a thesis.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

4999H Thesis Research

U 1 - 9

A program of research which includes individual conferences and which culminates in an honors thesis and an oral defense.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

5191 Internship in Atmospheric Sciences

U G 1 - 6

An opportunity for practical experience and on-the-job learning in an atmospheric sciences related work place.

Prereq: 12 cr hrs in major program, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

5193 Individual Studies in Atmospheric Sciences

U G 1 - 15

Independent studies on selected atmospheric sciences related topics.

Prereq: Permission of instructor. Repeatable to a maximum of 5 completions. This course is graded S/U.

5194 Group Studies in Atmospheric Sciences

U G 1 - 3

Special studies on selected atmospheric sciences related topics.

Repeatable to a maximum of 15 cr hrs or 5 completions.

46 Atmospheric Sciences

5797	Study at a Foreign Institution	U G	1 - 9	
	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.			
5901	Climate System Modeling: Basics and Applications	U G	3	
	An examination of climate system modeling, including their component atmospheric, oceanic, sea ice and land surface models, and their coupling, and their applications.			
	Prereq: 2940 (230) or Geog 5900 (520), or permission of instructor.			
5940	Synoptic Meteorology Laboratory	U G	2	
	Introduction to reading and interpretation of synoptic weather maps and diagram- and data-communication systems.			
	Prereq: 2940 (230) or Geog 5900 (520). Not open to students with credit for 620 or Geog 5940 (620). Cross-listed in Geog.			
5950	Atmospheric Thermodynamics	U G	3	
	An analysis of the fundamentals of atmospheric thermodynamics and their application to meteorological problems.			
	Prereq: Math 1152 (153). Not open to students with credit for 631.			
5951	Dynamic Meteorology I	U G	3	
	Fundamental problems in dynamic meteorology; components of the equations of atmospheric motion are derived, and vorticity and divergence in the development of meteorological systems.			
	Prereq: 5950 (631), and Math 2255 (255) or 2415 (415). Not open to students with credit for 637.			
5952	Dynamic Meteorology II	U G	3	
	Advanced problems in dynamic meteorology; use of the equations of motion in numerical models of the atmosphere, especially those used by the National Weather Service.			
	Prereq: 5951 (637) or AeroEng 2405 (405). Not open to students with credit for 638.			
7193	Individual Studies in Atmospheric Sciences	G	1 - 15	
	Independent studies on selected atmospheric sciences related topics.			
	Prereq: Permission of instructor. Repeatable to a maximum of 5 completions. This course is graded S/U.			
7194	Group Studies in Atmospheric Sciences	G	1 - 3	
	Special studies on topics directly related to the atmospheric sciences.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.			
8900	Atmospheric Sciences Seminar	G	3	
	A multidisciplinary seminar reviewing selected topics in atmospheric sciences and related fields.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.			
8999	Research in Atmospheric Sciences	G	1 - 9	
	Research for thesis or dissertation purpose only.			
	Repeatable to a maximum of 5 completions. This course is graded S/U.			

Aviation

2000	Introduction to the Aviation Industry	U	3	
	Introduction to the aviation industry, including its elements, components, and structures. Topics include: aircraft, airports, airspace, a survey of industry segments and purposes, and careers and career paths.			
	Prereq: Not open to students with credit for 300 or 322.			
2100	Private Pilot Fundamentals	U	5	
	Study of flight fundamentals, aircraft operations, weather, and regulations required for Private Pilot certification. This course is conducted under Federal Aviation Administration Regulations Part 141.			
	Prereq: Not open to students with credit for Aviation 310.01. This course is available for EM credit.			
2101	Private Pilot Flight Lab I	U	2	
	The first course in a series of two courses that culminate in the attainment of a private pilot certificate with airplane single engine land privileges. An application and orientation process is required before enrollment.			
	Prereq: A grade of B- or above in 2100, and CPHR 2.0 or above. Not open to students with credit for Aviation 341.			
2102	Private Pilot Flight Lab II	U	2	
	The second course in a series of two courses that culminate in the attainment of a private pilot certificate with airplane single engine land privileges.			
	Prereq: 2101, and CPHR 2.0 or above. Not open to students with credit for Aviation 342.			
2200	Aviation Communication	U	3	
	Consideration of oral, written, operational, professional, impromptu, prepared, and management communication. Emphasis on aviation communication protocols and formats.			
	Prereq: Aviatn 2000 and 2100. Not open to students with credit for Aviation 520.			
2300	Aircraft Performance and Weather	U	3	
	Weather theory, patterns, data, and analysis. Data formats and sources. Consideration of weather conditions as they relate to aircraft and flight performance.			
	Prereq: Aviatn 2000 and 2100. Not open to students with credit for Aviation 410 or 411.			
2501	Commercial Cross Country Flight Lab	U	2	
	Course country flights designed to meet the requirements of the commercial pilot certificate. Prereq: 2100, 2101, and 2102; and CPHR 2.0 or above; and permission of instructor.			
3000	Aviation Management and Marketing	U	3	
	Consideration of management and marketing concepts and models. Analysis of management and marketing strategies and practices in the aviation industry.			
	Prereq: 2000 and 2100. Concur: 2200, or a second-level writing course. Not open to students with credit for Aviation 550 or 654.			
3100	Instrument Flight Fundamentals	U	3	
	Study of flight by reference to instruments, IFR regulations, and procedures in the National Airspace System.			
	Prereq: A grade of B- or above in Aviatn 2100, 2101, and 2102. Not open to students with credit for Aviation 415.			
3101	Instrument Flight Lab	U	3	
	Instrument flight operations, navigation, patterns, maneuvers, regulations, approach protocols, and cross country flight planning and execution.			
	Prereq: 2100 and 2102; and CPHR 2.0 or above. Concur: 3100. Not open to students with credit for Aviation 441 or 442.			
3193	Individual Studies in Aviation	U	2 - 5	
	Research, project(s), and/or investigation into aviation topics that are not treated in existing classes.			
	Prereq: Permission of instructor. Repeatable to a maximum of 7 cr hrs or 2 completions. This course is graded S/U.			
3194	Group Studies in Aviation	U	2 - 5	
	Research, project(s), and/or investigation into comprehensive and larger aviation topics that are not treated in existing classes and are best served by a team.			
	Prereq: Permission of instructor. Repeatable to a maximum of 7 cr hrs or 2 completions.			
3200	Aviation Regulations	U	3	
	Consideration and analysis of aviation regulatory environments and processes, such as regulatory certifications, rulemaking, and legislation. Maintenance, airports, aircraft, and operations. Law, environment, safety, security, and operations.			
	Prereq or concur: Aviatn 3000. Not open to students with credit for Aviation 530.			
3300	Aviation Human Factors and Safety	U	3	
	Consideration of Human Factors including all sensory, perceptive, cognitive and decision making dynamics as they are expressed in aviation. Consideration of aviation safety including incidents, accidents, crew resource management, and performance.			
	Prereq or concur: 3000. Not open to students with credit for Aviation 540 or 560.			
3340.01	Aviation Human Factors Transition	U	2	
	First half of the curriculum of the new semester course AVN 3300 - "Aviation Human Factors" which is the combination of AVN 540 - Aviation Human Factors, and AVN 560 - Aviation Safety, under the quarter system. This course will focus solely on the aviation human factors component of the combined course curriculum. The course will be offered for 2 semester units.			
	Prereq: Aviation 560. Not open to students with credit for Aviation 540.			
3400	Aviation Accident Investigation	U	3	
	Review of accident investigation techniques and methodologies that will be reinforced with case examples.			
	Prereq: 2000 and 2100.			
3500	Airline Labor Relations	U	3	
	Provides students with an overview of the modern airline labor system in the United States as regulated by the Railway Labor Act. Areas of focus include the organizing process, collective bargaining, negotiation tools and techniques, dispute resolution, corporate structures, mergers, and the union's role in safety.			
	Prereq: 2000, 2100, and 3000.			
3600	Business and Corporate Aviation Management	U	3	
	Analysis and review of the principles and challenges of operating an on-demand air transportation system. Consideration of decision making strategies and sound operating practices that are needed to define and manage a corporate flight department. Presentation of information via textbook, assigned readings, videos, lecture and guest speakers.			
	Prereq: 3000.			
3700	Building a Diverse Workforce in Aviation	U	3	
	This course is an analysis of what it takes to create and sustain a diverse and inclusive workforce in the aviation industry. Students will engage with guest speakers and readings to understand how diversity, inclusion, and equity are defined. Readings will cover the historical significance of diversity and inclusion efforts.			
	Prereq: 2000, 2100, and 2200.			
4000	Air Transportation Analysis I	U	3	
	Analysis of domestic and international air transportation systems and models. Particular focus on supply and demand components. Consideration of major industry segments, such as commercial, business, cargo, and general aviation.			
	Prereq: Aviatn 3000. Not open to students with credit for Aviation 650 or 652.			

4100 Commercial Flight Fundamentals	U 3	Study of regulations, aerodynamics, systems, performance profiles, navigation, weather, and operations for the commercial pilot certificate. Prereq: A grade of B- or above in Aviatn 2100, 2102, and 3101; or permission of instructor. Not open to students with credit for Aviation 413.
4101 Commercial Flight Lab	U 3	Second course toward Commercial Pilot certificate single engine land. Prereq: 2102 and 3101; and a CPHR 2.0 or above. Not open to students with credit for Aviation 444 or 445.
4300 Advanced Multi-Engine Operations	U 2	Introduction and consideration of Part 121 and 135 operations with a comprehensive study of the principles of advanced aircraft operations. Prereq: Aviatn 4100. Not open to students with credit for Aviation 417.
4301 Commercial Multi Engine Flight Lab	U 2	Aeronautical knowledge and flight training required to attain an airplane multi engine rating in addition to the Commercial Pilot certificate. Prereq: A grade of B- or above in 3100 and 4100; 2501 and 3101; and a CPHR 2.0 or above. Not open to students with credit for Aviation 446.
4400 Airport Management	U 3	Comprehensive study of airport operations and management; role of the airport manager in planning, finance, administration, public relations, socio-political and environmental considerations, and operational requirements and maintenance. Prereq: Aviatn 3000. Not open to students with credit for Aviation 552.
4500 Aviation Capstone	U 3	Directed research, preparation, and presentation of relevant and coordinated information that summarizes current or predicted significant aviation topics, issues, and developments. Partnership with industry is encouraged. Prereq: Aviatn major, and completion of the Aviatn major core.
4800 Professional Practices in Industry	U 2 - 5	Application of academic skills, knowledge, and training to identify issues, problems, or research in the student's aviation industry workplace. Employment and faculty sponsorship, problem identification, analysis, and solution proposals. Prereq: Approval of faculty sponsor and/or industry employer/sponsor. Not open to students with credit for Aviation 489. Repeatable to a maximum of 7 cr hrs or 2 completions. This course is graded S/U.
4999H Aviation Engineering Research for Honors Thesis	U 1 - 3	Supervised research and project work arranged individually for honors students resulting in a written Honors thesis. Prereq: Honors standing in the College of Engineering, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 4 completions.
5000 Air Transportation Analysis II	U G 3	Consideration of commercial air transportation systems with emphasis on performance measurement, productivity, optimization, and network analysis. Prereq: Aviatn 4000. Not open to students with credit for Aviation 591 or 750.
5100 Flight Instructor Methodology	U G 2	Study of learning theories, communication techniques, the teaching process, teaching methods, and evaluation. Application of these concepts to develop lesson plans and course(s) of study. Prereq: A grade of B- or above in Aviatn 2300, 3100, and 4100. Not open to students with credit for Aviation 421.
5101 Flight Instructor ASE Flight Lab	U G 2	Aeronautical knowledge, experience and skills necessary to meet or exceed FAR Part 61 requirements for a flight instructor certificate with airplane single engine land privileges. Prereq: A grade of B- or above in 5100, and CPHR 2.0 or above. Not open to students with credit for Aviation 461.
5102 Flight Instructor AME Lab	U G 1	Aeronautical knowledge and flight training necessary to attain an airplane multi-engine rating in addition to the Flight Instructor ASEL certificate. Prereq: Aviatn 4301 and 5101. Not open to students with credit for Aviation 463.
5193 Individual Studies in Aviation	U G 2 - 5	Research, projects, and/or investigations into aviation topics that are not treated in existing classes. Prereq: Permission of instructor. Repeatable to a maximum of 7 cr hrs or 2 completions.
5194 Group Studies in Aviation	U G 2 - 5	Team research, projects, and/or investigation into comprehensive and larger aviation topics that are not treated in existing classes. Prereq: Permission of instructor. Repeatable to a maximum of 7 cr hrs or 2 completions.
5200 Instrument Flight Instructor Methodology	U G 2	Teaching methods and evaluation procedures for a course of study leading to an Instrument Instructor rating. Prereq: A grade of B- or above in Aviatn 3100 and 5100. Not open to students with credit for Aviation 422.

5201 Flight Instructor Instrument Flight Lab	U G 1	Necessary aeronautical knowledge, experience, and skills to meet or exceed FAR Part 61 requirements for instrument flight instructor certification. Prereq: Aviatn 5101, or Flight Instructor Certificate. Not open to students with credit for Aviation 462.
5300 Airport Planning, Design, and Development	U G 3	A comprehensive study of airport planning, design and development, the role of the airport and its components as part of the overall air transportation system, the issues related to the planning, design, and development of the airport and its system. Prereq: Aviatn 3000. Not open to students with credit for Aviation 674. Cross-listed in CRPlan and CivlEn.
5998H Honors Research in Aviation	U G 1 - 6	Designed to give the student an opportunity to pursue special studies in Aviation at an honors level on topics not otherwise offered. Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.
Biochemistry		
2194 Group Studies	U 1 - 4	Group Studies. Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions. This course is graded S/U.
2210 Elements of Biochemistry	U 4	A survey of biochemistry stressing the qualitative rather than the quantitative approach. Credit does not count toward a major in biochemistry. Prereq: Chem 1110 (102) or 1210 (122), or equiv. Not open to students with credit for 211 and 212. This course is available for EM credit.
2900H Early Experience in Research in Biochemistry: Seminar	U 1	Introduction to biochemical research through seminars and laboratory tours by faculty in the department. Biology 1113 (113) recommended but not required. Prereq: Honors standing, and Chem 1220 (123), 1620 (163), or 1920H (203H); or permission of instructor. Not open to students with credit for 1900H or 200H. This course is graded S/U.
2998H Early Experience in Research in Biochemistry: Laboratory	U 1 - 3	A laboratory sequel to Biochem 2900H to introduce undergraduates to biochemical research. Prereq: Honors standing, and 2900H; or permission of instructor. Not open to students with credit for 1998H or 201H. This course is graded S/U.
3798.02 Study Tour: Foreign	U 1 - 10	Study Tour. Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Foreign locations only. Prereq: Permission of instructor. Repeatable. This course is graded S/U.
4193 Individual Studies	U 1 - 5	Individual Studies. Prereq: Permission of instructor. Repeatable to a maximum of 25 cr hrs or 8 completions. This course is graded S/U.
4194 Group Studies	U 1 - 4	Group Studies. Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions. This course is graded S/U.
4511 Introduction to Biological Chemistry	U 4	An introductory course in biochemistry dealing with the molecular basis of structure, metabolism, genetic replication, transcription, and translation in plants, animals, and microorganisms. Prereq: Chem 1220 (123) or 1250 (125), and 2510 (252) or 2310 (231), and one semester of Biological Sciences; or permission of instructor. Not open to students with credit for 511. This course is available for EM credit.
4998 Undergraduate Research in Biochemistry	U 1 - 5	Undergraduate research in biochemistry, structural and molecular biology. Prereq: Permission of instructor under whose supervision the work is to be completed. Repeatable to a maximum of 20 cr hrs or 5 completions.
4998H Undergraduate Honors Research in Biochemistry	U 1 - 5	Undergraduate research in biochemistry, structural and molecular biology. Prereq: Honors standing, and permission of instructor under whose supervision the work is to be completed. Repeatable to a maximum of 20 cr hrs or 5 completions.
4999 Thesis Research in Biochemistry	U 1 - 5	A program of reading and research for each student with individual conferences and reports, culminating in the preparation of a thesis. Prereq: Permission of instructor under whose supervision the work is to be completed. Repeatable to a maximum of 20 cr hrs or 5 completions.

48 Biochemistry

4999H	Honors Thesis Research in Biochemistry	U	1 - 5	G	1 - 12
A program of reading and research for each student with individual conferences and reports, culminating in the preparation of an honors thesis.					
Prereq: Honors, and Jr or Sr standing, and permission of instructor under whose supervision the work is to be completed. Repeatable to a maximum of 20 cr hrs or 5 completions.					
5193	Individual Studies	U G	1 - 5		
A program of supervised independent study for each student with individual conferences and reports.					
Prereq: Permission of instructor under whose supervision the study is to be completed. Repeatable to a maximum of 25 cr hrs or 8 completions. This course is graded S/U.					
5194	Group Studies	U G	1 - 3		
Group Studies.					
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.					
5613	Biochemistry and Molecular Biology I	U G	3		
An introductory course in biochemistry and molecular biology developing in three semesters the molecular basis of structure and function of living cells.					
Prereq: Chem 2510 (252), 2610, or 2910H. Prereq or concur: Chem 2520 (253), 2620, or 2920H, and one semester in Biological Sciences. Not open to students with credit for 613 or 4511 (511).					
5614	Biochemistry and Molecular Biology II	U G	3		
Continuation of Biochem 5613.					
Prereq: 5613 (613). Not open to students with credit for 614.					
5615	Biochemistry and Molecular Biology III	U G	3		
Continuation of Biochem 5614.					
Prereq: 5614 (614). Prereq or concur 5613 (613), with permission of instructor.					
5621	Biochemistry and Molecular Biology Laboratory	U G	4		
Laboratory course covering the principles and application of basic lab techniques, protein purification, enzyme assays, and recombinant DNA technologies.					
Prereq: 4511 (511) or 5613 (613), or equiv. Not open to students with credit for 521 or 521H.					
5701	DNA Transactions and Gene Regulation	U G	3		
Understanding mechanisms of DNA replication, DNA repair and recombination, transcription, translation, regulation of gene expression, and the experimental approaches to these topics.					
Prereq: 4511 or equiv., and MolGen 4500 or 5606; and Sr or Grad standing, or permission of instructor. Not open to students with credit for MolGen 5701. Cross-listed in MolGen.					
5721	Physical Biochemistry I	U G	3		
Introduction to physical chemistry with emphasis on biological applications; designed for students in the life sciences.					
Prereq: Biology 1113; Math 1152 (153), 1172, 1181H, or 2162 (162); and Physics 1201 (113) or 1251 (133). Prereq or concur: Chem 2520 (253), 2620, or 2920H. Not open to students with credit for 721.01 or Chem 4200 or 4300.					
5722	Physical Biochemistry II	U G	3		
Continuation of Biochem 5721.					
Prereq: 5721, or Chem 4200 or 4300. Not open to students with credit for 721.02 and 721.03.					
6701	Advanced Biochemistry: Molecular Biology	G	3		
An advanced treatment of the biochemical principles of gene and genome function.					
Prereq: 5615 and MolGen 4500, or equivs. Concur: 6761 or BioPhrm 6761, or permission of instructor. Not open to students with credit for BioPhrm 6701, Microbio 6080, 6010, or MolGen 5701. Cross-listed in BioPhrm.					
6761	Advanced Biochemistry: Macromolecular Structure and Function	G	3		
An advanced treatment of the physical and chemical properties, biological function, and structural biology of proteins and nucleic acids.					
Prereq: 5615 (615), Chem 2520 (253), 2550 (255), and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 761 and 766, or Chem 761 and 766, or BioPhrm 6761 (761 and 766). Cross-listed in BioPhrm.					
6762	Advanced Biochemistry: Enzymes	G	1½		
An advanced treatment of enzymology and enzyme mechanisms.					
Prereq: 5615 (615), and Chem 2520 (253) or 2550 (255), and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 762, Chem 762, or MolBio 6762 (762). Cross-listed in MolBio.					
6763	Advanced Biochemistry: Membranes and Lipids	G	1½		
An advanced treatment of membranes structure, function, and lipids.					
Prereq: 5615 (615), Chem 2520 (253), 2550 (255), and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 763, Chem 763, or MolBio 6763 (763). Cross-listed in MolBio.					
6765.01	Advanced Biochemistry: Physical Biochemistry	G	1½		
An advanced treatment of physical biochemistry including topics in spectroscopy.					
Prereq: 5615 (615), Chem 2520 (253), 2550 (255), and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 6765.02 (765), Chem 765, or MolBio 765.					
6998	Graduate Research in Biochemistry	G	1 - 12		
Research in biochemistry, structural and molecular biology.					
Repeatable. This course is graded S/U.					
6999	Research for Masters Thesis			G	1 - 12
Research for Masters thesis only.					
Repeatable. This course is graded S/U.					
7766.01	Advanced Biochemistry: Nucleic Acids			G	2
Advanced understanding of the structure and function of nucleic acids, their interactions with other biological molecules, and of the techniques for detailed mechanistic investigation of nucleic acid structure and function.					
Prereq: 6761 (761), 6701, or 702; or permission of instructor. Not open to students with credit for 7766.02 (766), Chem 766, or MolBio 766.					
7770.01	Advanced Biochemistry: Protein Engineering			G	1½
Current research on genetic and protein engineering of proteins for biotechnological and theoretical studies.					
Prereq: 6761 (761), Chem 6761 (761), or MolBioC 6761 (761), or equiv, or permission of instructor. Not open to students with credit for 7770.02 (770).					
8900.01	Advanced Biochemistry: Biomolecular NMR			G	1½
Application of NMR spectroscopy to the study of biological macromolecules. Heteronuclear NMR, product operators, multidimensional spectra, proteins, nucleic acids, structure determination, dynamics, ligand complexes.					
Prereq: Grad standing in Biochemistry, Biophysics or Chemistry, or permission of instructor. Not open to students with credit for 8900.02 (905).					
8990	Advanced Topics in Biochemistry			G	1 - 4
Advanced treatment of areas of current interest in biochemistry; topics will be announced each semester.					
Prereq: 5615 (615) or equiv, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions.					
8999	Research for Dissertation			G	1 - 12
Research for doctoral dissertation only.					
Repeatable. This course is graded S/U.					
Bioenergy and Biological Waste Management					
1201T	Exploring Bioenergy and Biological Waste Management	U			1/2
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.					
2010T	Introduction to Bioenergy and Biological Waste Management	U			3
An Introduction to conventional and alternative energy (with emphasis on bioenergy and bioproducts), including conservation, economic and environmental issues. Water Consumption, scarcity, pollution, and water resource recovery will be emphasized. Fermentation technology and biochemistry of microbial breakdown of carbohydrates, proteins, and lipids will be introduced.					
This course is available for EM credit.					
2020T	Bioenergy and Wastewater Technologies	U			4
A detailed description of technologies employed in bioenergy-generating processes and wastewater treatment. Scientific and technical backgrounds of fermentation technology will be introduced. A critical evaluation of the environmental impacts of organic wastes. Bioreactor design; management of industrial, agricultural, and municipal solid wastes and wastewater will be covered.					
Prereq: 2010T; Chem 1210. This course is available for EM credit.					
2030T	Feedstock Evaluation and Analysis	U			3
An Introduction to feedstocks used in the bioenergy/bio-products industry, including analytical tools for feedstock evaluation and handling, and logistical and economic aspects of industrial biomass feedstocks.					
Prereq: 2010T. This course is available for EM credit.					
2035T	Sustainability and Waste Management	U			3
The science and economics of composting, recycling, bioremediation, and phytoremediation will be introduced. Biocconversion of organic wastes and plant-derived sugars to value-added non-fuel products (platform chemicals and other bio-products) will be explored through classroom sessions and laboratory experiments.					
Prereq: 2010T; Chem 1210. This course is available for EM credit.					
2040T	Bioenergy and Biological Waste Management Projects	U			3
This capstone course provides a general overview of bioenergy-generating and wastewater treatment systems with emphasis on planning and logistics, project management, economics, and operations in a real-world setting. Practical applications for managing waste-to-energy projects and wastewater treatment will be emphasized through hands-on and on-site experience.					
Prereq: 2020T; 2030T.					
2189T	Bioenergy and Biological Waste Management Practicum	U			1 - 2
Supervised practical experience in a relevant work environment-bioenergy laboratory, wastewater treatment plant, biogas plant-with emphasis on developing competencies related to classroom and career activities. A grade of C or better required to meet graduation requirements.					
Repeatable to a maximum of 4 cr hrs or 2 completions.					

Bioenergy and Biological Waste Management 49

2191T Bioenergy and Biological Waste Management Internship U 2

Employment experience in a bioenergy/biological waste management work environment that provides varied occupational experience, supervised by an employer and coordinated by faculty. A grade of C or better required to meet graduation requirements.
Prereq: GPA 2.00 or above, and permission of instructor.

2193T Individual Studies U 1 - 3

Designed to give an individual student an opportunity to pursue special studies not offered in other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.
This course is graded S/U.

2194T Group Studies U 1 - 3

Designed to give groups of students an opportunity to pursue special studies not offered in other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

Bioethics

2000 Theory and Foundations of Bioethics U 3

Explores moral concerns and ethical decision-making in medicine and health care. Topics include health care reform informed consent, quality of life decisions, decisions to allow to die, rationing, futility, and scarcity of resources. In particular, we will analyze concerns regarding equality, justice, and individual rights to health care.
GE cultures and ideas course.

2010 Ethics of Biomedical Science Research U 3

Provides a foundation in traditional ethics, a consideration of the subcategories of bioethics, neuroethics, and eugenics and instructs students in how to apply ethics to contemporary issues in research and technology. This course also satisfies the basic components of Responsible Conduct of Research (RCR) education.
GE cultures and ideas course.

2020 Bioethics in Film, Media & Society: Explorations in Culture and Biopolitics U 3

This course is designed as a forum for identifying and discussing moral, societal, and political issues in bioethics as represented through various forms of moving-image culture, primarily in film but also including still photography, television, and digital media.

3000 Case Studies in Medical and Healthcare Ethics U 3

The field of medical ethics has been and is continually shaped by major cases, both famous and infamous. This course surveys the causes and contexts, as well as the philosophical and ethical issues embedded within these cases.

4000 Readings in Bioethics U 3

Readings in Bioethics entails a close reading of classic bioethics texts from Hippocrates through the beginning of the modern bioethics period (i.e., Fletcher, Ramsey, and Singer) and through the contemporary era. Religious and secular writings from diverse perspectives will be included. This course combines lecture presentation, class discussion, and student presentations.

6000 Bioethics Theory and Foundations G 3

Offers a philosophical survey of the moral foundations of contemporary bioethical theories and health care policies.

6010 Biomedical Research Ethics G 3

The broad intent of this course is to highlight the importance of ethics in biomedical research and to explore how critical ethical thinking can be used to analyze personal decision-making, public regulation, and the law concerning advanced biomedical sciences/technologies and their clinical applications.

6020 Clinical Bioethics I G 3

Explore the major clinical ethical issues confronting the practices of medicine and biomedical science.

6030 Bioethics, Law, & Public Policy G 3

Instructs students in rudimentary legal research skills, constitutional foundations of health care law applicable to some classical and contemporary legal issues, and an overview of the structures of the legal system of the United States.

6040 Bioethics Symposium I G 1½

This unique course follows a longitudinal format with monthly 3-hour lectures, presentations, panel discussions, and/or debates led by various OSU faculty and guest lecturers. The intent of the course is to present to students a wide exposure to the most relevant, contemporary, and controversial topics in bioethics presented from a wide array of experts in the disciplines intersecting bioethics.

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

6050 Bioethics Symposium II G 1½

This unique Symposium II course follows a longitudinal format with monthly 3-hour lectures, presentations, panel discussions, and/or debates led by various OSU faculty and guest lecturers.

Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

7000 Advanced Clinical Bioethics G 3

Building upon Clinical Bioethics (BIOETHIC 6020), this course will engage students in the more advanced processes and procedures of clinical ethical analysis, focusing on ethical reflection, negotiation, and decision making in clinical ethical scenarios. Theoretical frameworks, concepts, and applied analytical strategies will be examined in light of their usefulness for practice.

7010 End of Life Ethics G 3

Over 2/3rds of clinical ethics dilemmas involve end-of-life decision-making. End-of-life care and palliative care are growing fields. This course will engage the essential ethics issues involved in end-of-life care. Clinical cases and medical knowledge will be explored. The prevailing procedural ethics of our time will be utilized to discuss ethical dilemmas.

7030 History of Medical Ethics and Bioethics G 3

The main goal of this course is to explore the historical roots of the field of bioethics. The course will be divided into a few main parts: the first is a broad survey of key figures and movements in medical history from antiquity to modernity, including the Hippocratics, Galenic medicine, the birth of dissection, Christian hospitality, Medieval medicine, modern surgery, the age of antibiotics,etc.

7040 Bioethics and the Holocaust G 3

This course is designed to allow students an in-depth study of one of the most troubling periods in the history of medicine the active participation of physicians in the Holocaust. We will attempt to understand the distorted rational behind this genocide by ordinary men and women. We will also discuss, in depth, analogies to today's medical practice.

7050 Pediatric and Perinatal Bioethics G 3

This course focuses on key ethical issues surrounding women's health and the pre, peri, and post natal care of the mother and the newborn, including but not limited to ethics of: pre-implantation genetic diagnosis, prenatal diagnosis, maternal decision making, in vitro fertilization, prenatal diagnosis, fetal treatment/surgery, neonatal care, genetic counseling, gene therapy, and genetic testing.

7060 Religious and Theological Perspectives in Bioethics G 3

This course addresses the discourses and interplay of secular, religious, and theological perspectives in the field of bioethics. One central goal of this course is to identify the thought and language of secular, immanent bioethics in comparison/contrast with religious, transcendent bioethics without glossing the thick plurality of religious differences and perspectives in the major religions

7070 President's Bioethics Councils G 1½

This course will survey the writings of the various president's bioethics councils beginning in 1974 to the most recent bioethics commission established by President Obama.

7080 Belmont Report G 1½

This course will delve deeply into the text of the Belmont Report, including reading essays in the appendices of the report and additional outside material.

7800 Research Methods in Bioethics G 3

Students will explore the variety of methods used to address ethical concerns surrounding clinical care, biomedical research, and health care policy. The course will equip students with analytic and practical skills to engage in research of their own.

8000 Directed Readings in Bioethics G 3

This course of directed readings provides additional research preparation for a particularly high-level MA Thesis. Admission to this course requires a sponsoring faculty member and approval from the Director of the MA program. The Syllabus for this course will be written in conjunction between the student and sponsoring faculty member and approved by the Director of the MA program.

Prereq: 6000-level BioEthc course, or approval of Program Director. This course is graded S/U.

8010 Bioethics Practicum G 3

Alongside the MA Thesis Project, the Ethics Practicum is one of two possible capstone projects in the MA program. Having selected the Ethics Practicum, students two options or fields of focus for the practicum: clinical ethics or research ethics. Both areas of focus for the practicum are based upon a Personal Learning Plan (PLP) developed in collaboration with a supervisor.

Prereq: BioEthc 6000-level course. This course is graded S/U.

8020 Bioethics Masters Thesis G 3

The master's thesis is a carefully argued scholarly paper of approximately 12,000 to 13,000 words (roughly 50 pages). Students will under the supervision of a faculty adviser to craft and write an original argument with sources. The thesis must have a substantial research component and a focus on a suitable topic within the field of bioethics as a final element in the master's degree.

Prereq: BioEthc 6000-level course. This course is graded S/U.

Biological Chemistry and Pharmacology

3311 Fundamentals of Medical Biochemistry I U 3

Includes organic chemistry necessary for biochemistry. Basic structures and interactions of biomolecules in health and disease. Topics essential to human nutrition, dietetics, clinical chemistry, & paramedical fields. Proteins, enzymes, and vitamins.

Prereq: Chem 1110 (102), 1210 (121), or 1220. Not open to students with credit for 311.

50 Biological Chemistry and Pharmacology

3312	Fundamentals of Medical Biochemistry and Molecular Biology II	U	3
A continuation of 3311. Energy production; the chemistry and metabolism of carbohydrates, lipids and amino acids; nucleic acids and protein biosynthesis; integration and control of metabolic pathways, and the biochemistry of body fluids.			
Prereq: Chem 1110, 1210, or 1220.			
4250	Undergraduate Independent Study in Pharmacology/Pharmacogenomics	U	1 - 10
Offers undergraduate students the opportunity to gain research experience in laboratories in Pharmacology/Pharmacogenomics and learn the latest techniques and approaches.			
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.			
4998	Undergraduate Research	U	1 - 10
Undergraduate research or study in an area molecular and/or cellular biochemistry under the direction of a department faculty member.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions. This course is graded S/U.			
4998H	Undergraduate Research for an Honors Program	U	1 - 10
Undergraduate research or study in an area of molecular and/or cellular biochemistry under the direction of a departmental faculty member.			
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
4999	Thesis Research in Biological Chemistry and Pharmacology	U	1 - 10
A program of reading and research for each student with individual conferences and reports, culminating in the preparation of an honors thesis.			
Prereq: GPA 3.0 and above, and permission of the instructor under whose supervision the work is to be completed.			
4999H	Honors Thesis Research in Biological Chemistry and Pharmacology	U	1 - 10
A program of reading and research for each student with individual conferences and reports, culminating in the preparation of an honors thesis.			
Prereq: Honors status, GPA of 3.4 or higher, Junior or Senior standing, and permission of the instructor under whose supervision the work is to be completed.			
5050	Molecular Basis of Oxidative Stress	U G M	2
The inter-relationships between reactive species and development of human diseases will be the highlight of lectures and discussions.			
Prereq: Chem 2520, 2620, or 2920H.			
5193	Individual Studies	U G M	1 - 10
Qualified students can conduct a minor investigation under the direction of a faculty member. Au, Sp, or Su Semesters.			
Prereq: Course work in Biochemistry, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.			
5250	Wrangling NGS Data	U G	3
Intended for chemists, mathematicians, information scientists and engineers with an interest in working with and understanding next generation sequencing data; students will utilize these data to identify systemic failures important to health and disease.			
Prereq: Introductory calculus.			
5300	Molecular Pharmacology	U G	2
Identification of drug receptor genes and their second messenger pathways provides information unavailable from traditional approaches. We will examine how this information is used to develop new medications to treat a wide range of disorders with improving efficacy and safety.			
Prereq: Permission of instructor.			
5400	Chemotherapeutic Drugs for Cancer and Infectious Diseases	U G	2
Over the course of the last century a wide variety of drugs have been developed for chemotherapy of cancer and infectious disease. The mechanisms of action of these drugs involves diverse biological processes. In this course we will examine the molecular components targeted by anticancer, antimycobacterial, antifungal, antiprotozoal, anthelmintic and antiviral drugs.			
Prereq: Prior coursework in biochemistry or physiology or equiv., or permission of instructor.			
5500	Cardiovascular Pharmacology	U G	2
Covers basic principles of drug action for specific drug classes; including chemical properties, mechanisms of drug action, clinical uses, disposition, contraindications, adverse reactions, clinically significant drug interactions, and drug-disease interactions.			
Prereq: Prior coursework in biochemistry or physiology or equiv., or permission of instructor.			
5510	Responsible Conduct in Biomedical Research	U G M	1 - 2
The broad intent of this course is to highlight the importance of responsible conduct in biomedical research and to explore how critical ethical thinking can be used to analyze personal decision-making, public regulation, and the law concerning advanced biomedical sciences/technologies and their clinical applications. This course will introduce students to professional and ethical issues.			

5600	Introduction to General Pharmacology	U G	3
Introductory course emphasizing the general principles of pharmacology using a systems-based and mechanism-based approach. The course provides a simple overview of the subject.			
Prereq: Prior coursework in physiology, or permission of instructor. Not open to students with credit for Pharmcol 600.			
5700	Introduction to Personalized Therapeutics and Pharmacogenomics	U G	3
Exploration of the trend to therapy tailored to the individual patient rather than "one drug fits all;" inter-individual differences in drug responses, with emphasis on genetic and genomic factors; ethical, regulatory and economic issues that impact drug therapies. Introductory biology course recommended.			
5733	Human Genetics	U G M	2
The principles of human genetics covering mapping of disease genes, defects causing human disease, the cloning of disease genes, gene therapy, transgenes, and specific pathological disorders. Open to seniors who have completed the prerequisites.			
Prereq: MolGen 4500 (500) or 4606 (606), or equiv. Not open to students with credit for 733, MolGen 5733 (733), or Pathol 5733 (733). Cross-listed in MolGen and Pathol.			
5800	Stem Cell Biology and Applications for Human Regenerative Medicine	U G M	3
Basics of stem cell biology, as applied to multiple disease models of the brain and other organs, cancer research and aging. Practical examples and models from patients with neurodevelopmental and neurodegenerative diseases. Demonstration of laboratory strategies and techniques will be presented.			
Prereq: One year of basic biology, or permission of instructor.			
5852	Biology of Aging	U G	2
Covers molecular, cellular and organismal aspects of aging. Experimental evidence as well as current and historically important theories of aging will be discussed. The course will rely on analysis of original peer-reviewed publications.			
Prereq: Not open to students with credit for 5852 (852). CT Admis Cond course.			
6701	Advanced Biochemistry: Molecular Biology	G	3
An advanced treatment of the biochemical principles of gene and genome function.			
Prereq: Biochem 5615 and MolGen 4500, or equivs. Concur: BioPhrm 6761 or Biochem 6761; or permission of instructor. Not open to students with credit for Biochem 6701, Microbio 6080, 6010, or MolGen 5701. Cross-listed in Biochem.			
6761	Advanced Biochemistry: Macromolecular Structure and Function	G	3
An advanced treatment of the physical and chemical properties, biological function, and structural biology of proteins and nucleic acids.			
Prereq: Biochem 5615 (615), and Chem 2520 (253), 2550 (255) and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 6761 (761 and 766), Chem 761 and 766, or Biochem 6761 (761 and 766). Cross-listed in Biochem.			
6785	DNA Microarray Technology	G M	1
Covers the major areas of microarray technology, including theory, target preparation and labeling, manufacturing methods, imaging, and analysis and mining of data. Offered every other year.			
Prereq: BioChem 511 or equiv. Not open to students with credit for 785.			
6824	Foundations of Neuropharmacology	G	2
Pharmacological agents are valuable tools with which to probe the molecular and cellular basis of brain function. The scientific rational underlying the use of drugs to treat a wide range of neurologic and psychiatric disorders will be examined.			
Prereq: Undergraduate Pharmacology or Neuropharmacology (or equivalent), or permission of instructor.			
6850	Research in Progress Seminars	G	1
Seminar presentations from faculty laboratories of ongoing research.			
Prereq: Grad standing. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.			
7050	Neurobiology of Disease	G	3
Neurobiology of Disease will explore the basis of major diseases affecting the nervous system.			
Prereq: Permission of instructor. Not open to students with credit for BioPhrm 705. Cross-listed in NeuroSc 7050 (705).			
7193.01	Individual Studies in Pharmacology	G	1 - 30
Digitalis pharmacodynamics; neuropharmacology; endocrine pharmacology; cardiovascular pharmacology, autonomic pharmacology, clinical pharmacology; biochemical pharmacology; pharmacogenomics; toxicology.			
Prereq: Permission of instructor. Repeatable. This course is graded S/U.			
7250	Pharmacogenomics	G	2
Introduction to the role of genetics/genomics in drug discovery, development, and clinical applications. Capacity 20 students.			
Prereq: 701, 702, and 703, or permission of instructor.			
7510	Professional and Ethical Issues in Biomedical Sciences	G	2
A discussion course based on case scenarios dealing with ethical issues facing biomedical researchers, such as publishing practices, confidentiality, mentoring.			
Prereq: Grad standing, and enrollment in Biomedical Sciences program. This course is graded S/U. Cross-listed in VetBios 751.			

7550	Research Applications of Clinical Pharmacology	G	3
Application of basic and advanced concepts in pharmacology to contemporary research literature to solidify understanding of the pharmacologic principles underlying the individualization of drug therapy and contemporary drug development. Fundamentals of clinical pharmacology for the development, evaluation, and clinical use of pharmaceutical products. Prereq: 5600, HthRhSc 5510, Phr 5010, or other general pharmacology course; and Phr 7584, or other pharmacokinetics course. Permission to enroll without the prerequisite courses may be granted by instructor.			
7560			
Clinical Trials I: Design and Regulation			
		G	3
This course provides a fundamental overview of clinical trial design, methods, and regulation with an emphasis on medical product development, clinical trial protocols, preclinical research requirements, and the appraisal of published clinical trials.			
Prereq: Enrollment in the MS Pharmacology program, or permission of instructor. Not open to students with credit for Nursing 7770 or Phr 7770. Cross-listed in Nursing and Phr.			
7561	Clinical Trials II: Site Management and Study Leadership	G	3
This course provides a fundamental overview of best practices of clinical trial study and site management, including an emphasis on data, safety, and quality management, and study team leadership.			
Prereq: 7560, Nursing 7560, or Phr 7560, or permission of instructor. Not open to students with credit for Nursing 7405 or Phr 7405. Cross-listed in Nursing and Phr.			
7599	Capstone in Applied Clinical and Preclinical Research	G	1 - 12
Capstone project or practicum for students in the master's program in Applied Clinical and Preclinical Research. Culminating learning activity integrating core and specialization coursework. Capstone project or practicum performed at an organization involved with clinical or preclinical research with the oversight of a faculty advisor and site mentor.			
Prereq: Enrollment in the master's program in Applied Clinical and Preclinical Research, or permission of the program director. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U. Cross-listed in Nursing and Phr.			
7699	Clinical Pharmacology Practicum	G	1 - 8
Placement in an organization conducting clinical research drug studies for supervised practice experience.			
Prereq: Enrollment in MS Pharmacology program, or permission of the program director. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.			
7781	Animal Models of Human Disease	G M	1
Transgenic and knockout mouse technology and examples of models for genetic disease with each pattern of inheritance. Examples are collagen diseases (osteogenesis imperfecta), Huntington diseases, muscular dystrophy, and Fredreich ataxia.			
Prereq: MolGen 5701 (701) or Biochem 5701 (702). Not open to students with credit for MolBioch 781.			
7807	Gene Expression: Post-Transcriptional Control	G	3
Intensive study of problems in the general area of post-transcriptional control of gene expression. The course consists of student presentations and class evaluations of recently published results in these fields.			
Prereq: 6 cr hrs at the Grad level, or permission of instructor. Not open to students with credit for MolGen 7807 (880.07) or VetBios 7807 (880.07). Cross-listed in MolGen and VetBios.			
7823	Cell Death and Cancer Immune Environment	G M	2
The focus is on the roles of cell death and immune response in cancer progression. Topics include (a) the cell death machinery, (b) how cancer cells evade death and co-opt the host immune cells to aid their metastasis, and (c) how cancer cells survive stress conditions such as chemotherapy.			
Prereq: 1 yr of Grad Biochem, or permission of instructor.			
7828	Signaling Pathways and Human Disease	G	2
Current concepts of signal transduction and its role in controlling genes involved in various disease states, including cardiovascular diseases, neurological diseases, and cancer.			
Prereq: 1 yr of Grad Biochem, or permission of instructor.			
7831	Eukaryotic Genome: Structure & Expression	G	2
Current research on the structure and expression of genes in higher eukaryotes. Course includes student critiques and presentations of research papers.			
Prereq: Biochem 5701 or MolGen 5701 or equiv. Not open to students with credit for 831, MVIMG 831, or MolGen 831.			
8250	Design of Clinical Trials I	G	7
Students learn pertinent aspects of the Code of Federal Regulations related to the conduct of clinical trials. They learn the basics of conducting clinical research and they gain hands-on experience in a 39-bed clinical research facility.			
Prereq: Enrollment in Clinical Pharmacology MS program.			
8260	Design of Clinical Trials II	G	7
Students learn pertinent aspects of the Code of Federal Regulations related to the conduct of clinical trials. They learn the basics of conducting clinical research and they gain hands-on experience in a 39-bed clinical research facility.			
Prereq: Enrollment in Clinical Pharmacology Master's program.			
8300	Molecular Pharmacology and Human Disease	G	2
Molecular mechanisms of actions of blockbuster drugs in the treatment of human disease.			
Prereq: Pharmcol 600, 600D, or IBGP 702, or permission of instructor/course director. Not open to students with credit for Pharmcol 830.			

Biological Chemistry and Pharmacology 51

8824	Neuropharmacology	G	3
A study of the central nervous system including neurochemistry, neurotransmission, receptors, signal transduction, CNS disorders, treatments and the pharmacology of drugs that act on the CNS.			
Prereq: Coursework in Physiology and Biochemistry, or permission of instructor.			
8999	Research in Biological Chemistry and Pharmacology	G	1 - 12
Research for thesis or dissertation purposes only. Offered all semesters.			
Prereq: Grad standing. Repeatable to a maximum of 72 cr hrs or 15 completions. This course is graded S/U.			
Biology			
1101	Introductory Biology	U	4
Basic principles of biology; topics include the nature of science, organismal diversity, evolution, ecology, genetics, reproduction, and cellular structure and function. Not intended students majoring in one of the biological sciences.			
Prereq: Not open to students with credit for 1101E, 1113 (113), 1113H (115H), 101, Entmly 1101 (101), or MolGen 1101 (PlntBio101). This course is available for EM credit. GE nat sci bio course.			
1101E	Introductory Biology	U	4
Basic principles of biology; nature of science, organismal diversity, evolution, ecology, genetics, reproduction, and cellular structure and function. Not intended for the student pursuing an undergraduate major in one of the biological sciences.			
Prereq: Not open to students with credit for 1113, or 1113H, or Entmly 1101, or PlntBio 1101. This course is available for EM credit. GE nat sci bio course.			
1102	Human Biology	U	4
Exploration of human biology; topics include structure and physiological function, reproduction and development, genetics and disease, ecology, and evolution. Not intended for students majoring in one of the biological sciences.			
Prereq: Not open to students with credit for 102. This course is available for EM credit. GE nat sci bio course.			
1105	Human Biology in Cinema	U	3
Human Biology in Cinema will show that mainstream films with a core biological theme can be entertaining AND educational and that having some basic biological insights will enhance your comprehension and appreciation of these films. Lectures and discussions will cover basic principles in biology that will help elucidate the content of each film.			
GE nat sci bio course.			
1110	Biology for the Health Sciences	U	4
A survey of biological topics including evolution; structure and function; information flow, exchange and storage; pathways and transformations of energy and matter; and systems intended as preparation for Pre-Nursing and Pre-HRS students. Not intended for students on a Pre-Medicine or related track, or for students intending to major in biology or related areas.			
Prereq: Not open to students with credit for 1101, 1102, 1113, or 1114. This course is available for EM credit. GE nat sci bio course.			
1113	Biological Sciences: Energy Transfer and Development	U	4
Exploration of biology and biological principles; evolution and the origin of life, cellular structure and function, bioenergetics, and genetics. A broad introduction to biology comprises both Biology 1113 and 1114.			
Prereq: Math 1130 (130), 1148, 1150, or above, or Math Placement Level L or M. Prereq or concur: Chem 1110 (101), 1210 (121), 1610, or 1910H (201H), or permission of course coordinator. Not open to students with credit for 113. This course is available for EM credit. GE nat sci bio course. NS Admis Cond course.			
1113E	Biological Sciences: Energy Transfer and Development	U	4
Exploration of biology and biological principles; evolution and the origin of life, cellular structure and function, bioenergetics, and genetics. A broad introduction to biology comprises both Biology 1113E and 1114E.			
Prereq: Honors standing; and Math 1149 or 1150 or above, or Math Placement Level L. Prereq or concur: Chem 1210, 1610, or 1910H, or permission of course coordinator. GE nat sci bio course.			
1113H	Biological Sciences: Energy Transfer and Development	U	4
Exploration of biology and biological principles; evolution and the origin of life, cellular structure and function, bioenergetics, and genetics. A broad introduction to biology comprises both Biology 1113H and 1114H.			
Prereq: Honors standing; and Math 1149 or 1150 or above, or Math Placement Level L. Prereq or concur: Chem 1210, 1610, or 1910H, or permission of course coordinator. Not open to students with credit for 115H. GE nat sci bio course. NS Admis Cond course.			
1114	Biological Sciences: Form, Function, Diversity, and Ecology	U	4
Exploration of biology and biological principles; evolution and speciation, diversity in structure, function, behavior, and ecology among prokaryotes and eukaryotes. A broad introduction to biology comprises both Biology 1113 and 1114.			
Prereq: Math 1130 (130), 1148, or 1150 or above, or Math Placement Level L or M. Prereq or concur: Chem 1110 (101), 1210 (121), 1610, or 1910H (201H), or permission of course coordinator. Not open to students with credit for 114. This course is available for EM credit. GE nat sci bio course. NS Admis Cond course.			

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1114E	Biological Sciences: Form, Function, Diversity, and Ecology	U	4
Exploration of biology and biological principles; evolution and speciation, diversity in structure, function, behavior, and ecology among prokaryotes and eukaryotes. A broad introduction to biology comprises both Biology 1113E and 1114E.			
Prereq: Honors standing; and Math 1149, 1150, or above, or Math Placement Level L. Prereq or concur: Chem 1210, 1610, or 1910H, or permission of course coordinator. GE nat sci bio course.			
1114H	Biological Sciences: Form, Function, Diversity, and Ecology	U	4
Exploration of biology and biological principles; evolution and speciation, diversity in structure, function, behavior, and ecology among prokaryotes and eukaryotes. A broad introduction to biology comprises both Biology 1113H and 1114.			
Prereq: Honors standing; and Math 1149, 1150, or above, or Math Placement Level L. Prereq or concur: Chem 1210 (121), 1610, or 1910H (201H), or permission of course coordinator. Not open to students with credit for 116 or 116H. GE nat sci bio course. NS Admis Cond course.			
1131	Peer Led Team Learning for Biology 1113 Students	U	1
Peer-led team learning (PLTL) provides a structure within which students will actively work together in groups to complete a series of activities and deepen their understanding of concepts associated with Biology 1113. A peer leader will work with the group on challenging and relevant activities to prepare biology students to apply scientific reasoning to authentic problems.			
Concur: Biology 1113. This course is graded S/U.			
1141	Peer Led Team Learning for Biology 1114 Students	U	1
Peer-led team learning (PLTL) provides a structure within which students will actively work together in groups to complete a series of activities and deepen their understanding of concepts associated with Biology 1114. A peer leader will work with the group on challenging and relevant activities to prepare biology students to apply scientific reasoning to authentic problems.			
Concur: 1114. This course is graded S/U.			
2100	Biological Analysis	U	4
A case studies approach to biology with emphasis on quantitative and systems analysis. Does not substitute for Biology 1113 or 1114 for majors in the Biological Sciences. Chem 1120 or 1250 and Math 1152 or 1172 recommended.			
Prereq: Math 1151, and Soph standing. GE nat sci bio course.			
2194	Group Studies	U	1 - 4
Group study of a selected topic in biology not provided by other courses.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.			
2200	Genome Biology	U	1
DNA sequencing and analysis of bacteriophage genomes. Special emphasis on mycobacteriophage as part of the Howard Hughes Medical Institute National Genomics Research Initiative.			
Prereq: 1113 (with participation in the Howard Hughes Medical Institute National Genomics Research Initiative), or permission of instructor. Cross-listed in Microbio.			
2797	Study at a Foreign Institution	U	1 - 10
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.			
Prereq: Permission of advisor. Repeatable to a maximum of 30 cr hrs or 8 completions.			
3401	Integrated Biology	U	4
A case studies approach is used to gain a better understanding of biological concepts and principles. This course is designed for biology majors.			
Prereq: 1113 (113), 1114 (114), Chem 1220 (123), and Math 1150 (150), or permission of instructor. Not open to students with credit for 401.			
4191	Internship in Biology	U	1 - 5
A cooperative education or internship assignment conducted under the supervision of a faculty member.			
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.			
4193	Individual Studies	U	1 - 5
A program of individual study in the biological sciences appropriate for the student's needs.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
4194	Group Studies	U	2 - 4
Group studies of topics not otherwise offered in Biology.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 7 completions.			
4797	Study at a Foreign Institution	U	1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.			
Prereq: Permission of advisor. Repeatable to a maximum of 30 cr hrs or 8 completions.			
4798	Biological Roots in England	U	3
A short-term study-abroad course on the history of science in England, with emphasis on biology.			
Prereq: 6 cr hrs taken in Biological Sciences. Not open to students with credit for 500.			

4998	Research	U	1 - 5
Undergraduate research in biology.			
Prereq: Permission of advisor. Repeatable to a maximum of 30 cr hrs or 8 completions. This course is graded S/U.			
4998H	Honors Undergraduate Research	U	1 - 5
Undergraduate research in biology.			
Prereq: Honors standing, and permission of advisor. This course is graded S/U.			
4999	Thesis Research	U	1 - 5
A program of individual research in the biological sciences appropriate for the student's needs and culminating in a thesis and oral examination.			
Prereq: 1113 (113) or 1113H (115H), and 1114 (114) or 1114H (116H), and permission of advisor. Repeatable to a maximum of 12 cr hrs or 8 completions. This course is graded S/U.			
4999H	Honors Thesis Research	U	1 - 5
A program of individual research in the biological sciences appropriate for the student's needs and culminating in an honors thesis and oral examination.			
Prereq: Honors standing, and 1113 (113) or 1114 (114), and permission of advisor. Repeatable to a maximum of 12 cr hrs or 8 completions. This course is graded S/U.			
5001	Topics in Biology Teaching	U G	1
Students actively participate in workshops and other activities, including the development of new instructional materials and SOTL projects, that enhance their preparedness for college teaching.			
Repeatable to a maximum of 15 cr hrs. This course is graded S/U.			
6001	Biology College Teaching	G	2
Students take a scholarly approach to studying theory-based methods to help undergraduates learn biology. Students consider methods as an instructor, peer reviewer, and student.			
Prereq: Grad standing in BioSci. Not open to students with credit for Biology 701.			
6193	Graduate Independent Studies	G	1 - 4
Graduate independent studies.			
Repeatable to a maximum of 4 cr hrs or 4 completions. This course is graded S/U.			
Biomedical Engineering			
2000	Introduction to BME	U	3
Introduction to the application of engineering to modern healthcare utilizing lectures from engineering, medicine, and life science.			
Prereq: Permission of instructor. Not open to students with credit for 202 or 500.			
2193	Individual Studies in Biomedical Engineering	U	1 - 12
Provides the opportunity to pursue special studies or research in biomedical engineering not otherwise covered.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 10 completions. This course is graded S/U.			
2194	Group Studies in Biomedical Engineering	U	1 - 6
Provides groups of students opportunities to pursue special studies not otherwise offered.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
2700	Numerical Simulations in BME	U	2
Focuses on the application of computer-based numerical and graphical display skills for solving problems relevant to biomedical engineering.			
Prereq: 2000, Engr 1182 or Engr 1282, MechEng 2040, Math 2177, and Biology 1113 or equiv, and enrollment in BiomedE major. Not open to students with credit for 205.			
3702	Measurements and Instrumentation Lab	U	2
Measurement and interpretation of data from living systems; measurement and analysis of signals generated by bioelectrical potentials, and their relationship to human physiology and function.			
Prereq: 2000 and Anatomy 2220 and Physics 1251. Concur: Stat 3460 or 3470, and EEOB 3510; or permission of instructor. Not open to students with credit for 402.			
3703	Quantitative Physiology	U	3
Introduces students to the mathematical and numerical techniques used to develop, solve and analyze quantitative models of physiological systems.			
Prereq: 2700, Anatomy 2220, and Math 2177. Concur: EEOB 3510. Not open to students with credit for 403.			
4110	Bioimaging	U	3
Introduction to medical imaging techniques like x-ray, computed tomography, magnetic resonance and ultrasound.			
Prereq: 2000, Physics 1251, Math 2177, Anatomy 2220 or EEOB 2520, or permission of instructor. Not open to students with credit for 411.			
4193	Individual Studies in Biomedical Engineering	U	1 - 12
Provides the opportunity to pursue special studies or research in biomedical engineering not otherwise covered.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 10 completions. This course is graded S/U.			
4194	Group Studies in Biomedical Engineering	U	1 - 6
Provides groups of students opportunities to pursue special studies not otherwise offered.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			

Biomedical Engineering 53

4210 Biotransport	U 3	4998.01 Undergraduate Research in Biomedical Engineering	U 1 - 6
Covers key transport concepts in biomedical engineering. Emphasis is put on mass and momentum transport with applications related to biology, medical science and biotechnology.		Individual Studies in Biomedical Engineering.	
Prereq: 2000, Math 2177, or permission of instructor. Concur: MechEng 3500. Not open to students with credit for 421.		Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.	
4310 Biomaterials	U 3	4998.02 Undergraduate Research in Biomedical Engineering	U 1 - 12
Principles of materials science; biocompatibility and biological reactions to implanted materials; natural biomaterials and synthetic materials used in biological applications.		Individual Studies in Biomedical Engineering.	
Prereq: 2000, MatScEn 2010, and Math 2177. Concur: EEOB 3510, or permission of instructor. Not open to students with credit for 431.		Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 10 completions.	
		This course is graded S/U.	
4410 Biomechanics	U 3	4999 Biomedical Engineering Undergraduate Thesis Research	U 1 - 6
Mechanical characterization of biological tissues at the cellular, organ, and system level; exploration of biomechanical factors of physiological and pathological conditions.		Students are offered the opportunity to pursue an independent distinction project/research.	
Prereq: 2000, Math 2177, and MechEng 2040. Concur: EEOB 3510, or permission of instructor. Not open to students with credit for 441.		Student presentations and thesis writing included.	
		Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.	
4510 Cell, Molecular, and Tissue Engineering	U 3	4999H Biomedical Engineering Undergraduate Honors Thesis Research	U 1 - 6
Application of engineering methods to study, measure, repair, or replace biological functions and the molecular cellular or tissue-level length scales.		Honors program students are offered the opportunity to pursue an independent distinction project/research. Student presentations and thesis writing included.	
Prereq: 2000, Math 2177, or permission of instructor. Concur: Biochem 4511 and EEOB 3510. Not open to students with credit for 451.		Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.	
4610 Biomedical Micro/Nanotechnology	U 3	5001 Cardiovascular Bioengineering	U G 3
Introduction to micro/nanotechnology in biomedical settings, including micro/nanotechnologies used to investigate biological systems, physiological responses to nanotherapeutics, and first principles of microfluidics and microfabrication.		Overview of biomedical engineering approaches in imaging and intervention in cardiovascular medicine.	
Prereq: 2000, MatScEn 2010, and Biochem 4511, or permission of instructor. Not open to students with credit for 461.		Prereq: Sr or Grad standing in Engineering or Medicine, or permission of instructor. Not open to students with credit for 701.	
4711 Bioimaging Lab	U ½	5105 Bioimaging	U G 3
Hands-on lab that teaches students technical skills associated with Bioimaging. Lab components include hypothesis testing and analysis, computer simulation, lab safety and instrument training, and technical communication.		Introduction to medical imaging techniques like x-ray, computed tomography, magnetic resonance and ultrasound.	
Concur: 4110, or permission of instructor.		Prereq: Permission of instructor. Not open to students with credit for 4110 (411).	
4712 Biotransport Lab	U ½	5110 Biomedical Microscopic Imaging	U G 3
Hands-on lab that teaches students technical skills associated with Biotransport. Lab components include hypothesis testing and analysis, computer simulation, lab safety and instrument training, and technical communication.		Principles and applications of microscopy techniques (light, electron and atomic force microscopy) for biomedical research.	
Concur: 4210, or permission of instructor.		Prereq: 4110 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 611.	
4713 Biomaterials Lab	U ½	5120 Biomedical Optics	U G 3
Hands-on lab that teaches students technical skills associated with Biomaterials. Lab components include hypothesis testing and analysis, computer simulation, lab safety and instrument training, and technical communication.		Introduction of light-tissue interaction, optical imaging, and spectroscopy.	
Concur: 4310, or permission of instructor.		Prereq: 4110 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 612.	
4714 Biomechanics Lab	U ½	5170 Fundamentals of Medical Imaging	U G 3
Hands-on lab that teaches students technical skills associated with Biomechanics. Lab components include hypothesis testing and analysis, computer simulation, lab safety and instrument training, and technical communication.		Fundamentals of mathematical and physical principles and signals and systems concepts involved in medical imaging modalities of x-ray, computed tomography, magnetic resonance and ultrasound.	
Concur: 4410, or permission of instructor.		Prereq: Math 2177, or Grad standing, or permission of instructor.	
4715 Molecular, Cell, and Tissue Engineering Lab	U ½	5177 Biomedical Atomic Force Microscopy	U G 3
Hands-on lab that teaches students technical skills associated with Cell and Tissue Engineering. Lab components include hypothesis testing and analysis, computer simulation, lab safety and instrument training, and technical communication.		Applications of Atomic Force Microscopy (AFM) in bio-imaging, biomechanics, and nano-manipulation.	
Concur: 4510, or permission of instructor.		Prereq: 5110 (611) or equiv, and Sr or Grad standing; or permission of instructor.	
4716 BME Micro/Nanotechnology Lab	U ½	5186 Biomedical Ultrasound	U G 3
Hands-on lab that teaches students technical skills associated with BME Micro/Nanotechnology. Lab components include hypothesis testing and analysis, computer simulation, lab safety and instrument training, and technical communication.		Introduction to use of ultrasound in biomedical applications, including interaction of ultrasound with tissue; generation, reception and interpretation of ultrasonic signals; and clinical instrumentation.	
Concur: 4610, or permission of instructor.		Prereq: 4110 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 686 or 716.	
4881 Biomedical Engineering Seminars I	U 0	5193 Individual Studies in Biomedical Engineering	U G 1 - 12
Seminar series for introducing the state-of-the-arts development of biomedical engineering.		Provides the opportunity to pursue special studies or research in biomedical engineering not otherwise covered.	
Prereq: BiomedE major, or permission of instructor. This course is progress graded (S/U).		Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 10 completions.	
		This course is graded S/U.	
4900 Professional Development	U 1	5194.01 Group Studies in Biomedical Engineering	U G 1 - 6
Development of professional skills; engineering economy; project planning; ethics, best business practices.		Provides groups of students opportunities to pursue special studies not otherwise offered.	
Prereq: Sr standing in BiomedE. Not open to students with credit for 503.		Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.	
4901 Biomedical Engineering Capstone Design I	U 3	5194.02 Group Studies in Biomedical Engineering	U G 1 - 6
First course in a two-course BME capstone sequence. Introduction to design principles; challenges of biomedical device design; projects focus on helping persons with disabilities.		Provides groups of students opportunities to pursue special studies not otherwise offered.	
Prereq: Sr standing in BiomedE. Not open to students with credit for 501 or 565.01.		Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.	
4902 Biomedical Engineering Capstone Design II	U 3	5194.03 Group Studies in Biomedical Engineering	U G 1 - 6
Second course in a two-course BME capstone sequence. Applying design principles; challenges of biomedical device design; engineering and testing devices that focus on helping persons with disabilities.		Provides groups of students opportunities to pursue special studies not otherwise offered.	
Prereq: 4901, or permission of instructor. Not open to students with credit for 502 or 565.02.		Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.	
		5194.04 Group Studies in Biomedical Engineering	U G 1 - 6
		Provides groups of students opportunities to pursue special studies not otherwise offered.	
		Prereq: Permission of instructor. Not open to students with credit for 510. Repeatable to a maximum of 10 cr hrs or 10 completions.	
		5194.05 Group Studies in Biomedical Engineering	U G 1 - 6
		Provides groups of students opportunities to pursue special studies not otherwise offered.	
		Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.	

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5194.06 Group Studies in Biomedical Engineering U G 1 - 6

Provides groups of students opportunities to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

5194.07 Group Studies in Biomedical Engineering U G 1 - 6

Provides groups of students opportunities to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

5194.08 Group Studies in Biomedical Engineering U G 1 - 6

Provides groups of students opportunities to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

5194.09 Group Studies in Biomedical Engineering U G 1 - 6

Provides groups of students opportunities to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

5205 Biotransport U G 3

Covers key transport concepts in biomedical engineering. Emphasis is put on mass and momentum transport with applications related to biology, medical science and biotechnology. Prereq: Permission of instructor. Not open to students with credit for 4210 (421).

5305 Biomaterials U G 3

Principles of materials science; biocompatibility and biological reactions to implanted materials; natural biomaterials and synthetic materials used in biological applications.

Prereq: Permission of instructor. Not open to students with credit for 4310 (431).

5310 Advanced Biomaterials U G 3

Basic and advanced concepts of materials science; biocompatibility and biological reactions to implanted materials; natural biomaterials and synthetic materials used in biomedical applications.

Prereq: 4310 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 631.

5353 Hard-Tissue Biomaterials U G 3

In-depth literature review of selected current concepts in the material science of hard tissues and related implant materials.

Prereq: 5310, or permission of instructor. Not open to students with credit for 733.

5359 Extracellular Matrix in BME U G 3

Extracellular matrix (ECM) present in mammalian tissue(s) is important for the integrity and tensile strength of the underlying tissue as well as for cell-matrix interactions and matrix mineralization. This course provides an overview of the composition, structure and function of ECM and its application(s) for the BME domains of biomaterials, tissue engineering and biomechanics.

Prereq: 4310 and Chem 2310; or Grad standing; or permission of instructor. Not open to students with credit for 632 or 739.

5405 Biomechanics U G 3

Mechanical characterization of biological tissues at the cellular, organ, and system level; exploration of biomechanical factors of physiological and pathological conditions.

Prereq: Permission of instructor. Not open to students with credit for 4410 (441).

5420 Mechanobiology U G 3

Introduction to the incorporation of living components and compatible biomaterials to study, repair, or replace biological functions.

Prereq: 4410, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 642.

5421 Tissue Mechanics U G 3

Mechanical characteristics and behavior of tissues at the organ and system level and how these properties relate to physiological and pathological function.

Prereq: 4410 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 641 or 741.

5430 Finite Element Applications in BME U G 3

The finite element method for solution of differential equations for modeling biomedical engineering applications (implemented using COMSOL Multiphysics software).

Prereq: Math 2177 or equiv, and Anatomy 2220 or equiv, and Sr or Grad standing; or permission of instructor. Not open to students with credit for 643.

5470 Cell & Tissue Mechanics U G 3

This course will focus on the application of mechanics to biological cells and tissues. We will explore experimental methods used to measure mechanical properties of cells and tissues and mathematical models used to interpret experimental observations of cell and tissue mechanics. Computational mechanics and FE models will be used to investigate cell and tissue mechanics.

Prereq: 4410, and MechEng 2040, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 740.

5505 Cell, Molecular and Tissue Engineering U G 3

Application of engineering methods to study, measure, repair, or replace biological functions and the molecular cellular or tissue-level length scales.

Prereq: Permission of instructor. Not open to students with credit for 4510 (451).

5510 Advanced Tissue Engineering U G 3

The incorporation of living components and compatible biomaterials to study, repair, or replace biological functions.

Prereq: 4510 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 651.

5520 Cell Engineering U G 3

Cell-related phenomena important to tissue engineering and medicine: Cell-surface and cell-cell interactions; chemical/mechanical effects on cell function; cell engineering applications for treatment of human diseases.

Prereq: 4510 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 652.

5550 Engineering Principles in Cancer U G 3

The purpose of this course is to introduce engineering principles in the context of cancer progression and therapy.

Prereq: MechEng 3500, 3503, or CBE 2420; or permission of instructor. Not open to students with credit for CBE 5550 or MechEng 5550. Cross-listed in CBE and MechEng.

5560 Biomedical Engineering Applications in Cancer Biology U G 3

Introduction to cancer biology and the application of biomedical engineering disciplines, such as biomaterials, biomechanics, bioimaging, cell and tissue engineering, to fundamental and applied cancer research.

Prereq: Biology 1113; and BiomedE 4110, or 4310, or 4410, or 4510; or permission of instructor.

5580 Excitable Cell Engineering U G 3

Quantitative approaches to understanding excitable cell function. Advanced engineering methods applied to study these specialized cells will be addressed.

Prereq: Math 415 or equiv, and EEOB 3510 (415) or equiv; or Grad standing in BiomedE; or permission of instructor.

5605 Biomedical Micro/Nanotechnology U G 3

An introduction to micro/nanotechnology in medical settings emphasizing nanotechnologies used to investigate biological systems, use of biomolecules as functional components, and physiological responses to nanotherapeutics.

Prereq: Permission of instructor. Not open to students with credit for 4610 (461).

5610 Biomedical Microdevices U G 3

Course covers the application of microdevices for biomedical applications, including review of microfabrication and biophysical chemistry. Discussion and analysis of current research.

Prereq: 4610 or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 661 or 762.

5635 Cellular Nanotechnology U G 3

Application of nanotechnology to cells for sensing and subcellular manipulation. Synthesis and biological modification of quantum dots and magnetic nanostructures, their unique material properties, and their application.

Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 765 or ChBE 735. Cross-listed in CBE 5735.

5639 Medical Device Design U G 3

Basic principles and essential steps for medical device design and commercialization.

Prereq: 2000, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 679.

5661 Biomedical Nanotechnology I U G 3

Survey of biomedical micro and nanotechnology with particular emphasis on design and construction strategies for therapeutic nanodevices incorporating biological components.

Prereq: 4610 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 761. Cross-listed in CBE 5769.

5663 Introduction to Microfluidics and Nanofluidics U G 3

Principles of incompressible fluid mechanics and electrokinetic phenomena at the micro and nanoscale; biomedical applications with a laboratory illustrating fabrication techniques and experimental methods.

Prereq: MechEng 3503 or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 763 or MechEng 715. Cross-listed in MechEng 6515.

5667 BioMEMS Microfabrication U G 3

A detailed overview of microfabrication technologies, including silicon microfabrication, polymer microfabrication, and advanced microfabrication topics, with application to specific MEMS and BioMEMS devices.

Prereq: Sr or Grad standing in Engineering, or permission of instructor.

5668 Biomedical Microtransducers U G 3

Examination of the Micro-Electro-Mechanical-Systems (MEMS) as a tool for detecting signals or performing functions for biomedical research and clinical purposes.

Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 768.

Biomedical Engineering 55

5669 Principles and Design Theory for Advanced Medical Devices	U G 3	5730 Introduction to Bioinformatics	U G 3	
Discusses working principles and design theory for medical devices: systems engineering techniques for analyzing medical devices across scale; system integration and quantitative analysis of biotic/abiotic interfaces; methods to probe biological systems; conceptual and detailed design optimization; miniaturization of medical devices, and object-oriented system integration.			Introduces students to basic topics of bioinformatics including sequence analyses, proteomics, microarrays, regulatory networks, sequence and protein databases. Recommended background in molecular biology and computer science. Prereq: Not open to students with credit for IBGP 730.	
Prereq: 5639, or permission of instructor.				
6000 Scientific Methods in Biomedical Engineering	G 1	5740 Introduction to Research Informatics	U G 3	
Instruction on basic concepts and skills necessary for graduate students in Biomedical Engineering including literature search, proposal preparation, critical evaluation, and research presentation.			A survey of biomedical informatics theories and methods employed in the design, implementation and management of clinical and translational research programs. Recommended experience with computer science, statistics, anatomy, medical terminology, and molecular biology. Prereq: Not open to students with credit for 740.	
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 600.				
6113 Magnetic Resonance Spectroscopy and Imaging I	G 3	5750 Methods in Biomedical Informatics	U G 3	
Presentation of the basic principles of MRI/MRS, including basic MR physics, pulse sequences, adiabatic excitation, coil design, MR hardware, image formation, localized spectroscopy.			An intensive, application-oriented survey of methods used during the course of the design, implementation and evaluation of BMI platforms, including clinical info systems, decision support systems, databases, elec. data capture instruments, data visualization tools and other analytical "pipelines". These methods span a broad spectrum from information needs assessments to systems evaluation. Prereq: Basic knowledge of the following areas - basic computer science principles (logic, procedural and/or object oriented programming, data structures and algorithms), statistical methods, and medical terminology.	
Prereq: Grad standing, and permission of instructor. Not open to students with credit for 813 or Radiolg 6813 (813). Cross-listed in Radiolg 6813.				
6983 Research Ethics	G 2	5760 Public Health Informatics	U G 3	
Introduction to professional and ethical issues confronting biomedical research and researchers and approaches to dealing with such issues.			Introduction to the emerging and critical field of Public Health informatics. This course will highlight the history, current and future use of informatics in the public health settings, and give students an understanding of the role and broad application of informatics to promoting health and preventing disease. Cross-listed in PubHlth.	
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 883.				
6999 Biomedical Engineering Research for Thesis	G 1 - 16	5770 Health Analytics: Data to Discovery to Dissemination	U G 3	
Research for thesis purposes only.			Health Analytics is the science of analyzing health data for knowledge discovery and decision making. The sheer diversity of data types in health care settings results in what scholars call a DRIP environment: Data Rich-Information Poor. Data has become ubiquitous in healthcare settings from clinical decision making to operational/business planning; health decisions are now being made similarly. No programming experience is required, but students are expected to vigorously engage in their own learning and parts of courses will require that students use and adapt to tools demonstrated during class.	
Prereq: Permission of instructor. Repeatable. This course is graded S/U.				
7114 Magnetic Resonance Spectroscopy and Imaging II	G 3	5793 Individual Studies in Biomedical Informatics	U G 1 - 15	
Continuation of 6113. Presentation of the basic principles of MRI/MRS including basic MR physics, pulse sequences, adiabatic excitation, coil design, MR hardware, image formation, localized spectroscopy.			Enables graduate students to do research projects with faculty other than their adviser.	
Prereq: 6113 (813) or Radiolg 6813 (Radiolg 813), or permission of instructor. Not open to students with credit for 814 or Radiolg 7814 (Radiolg 814). Cross-listed in Radiolg 7814.			Prereq: Permission of instructor. Repeatable to a maximum of 60 cr hrs or 4 completions. This course is graded S/U.	
8193 Individual Studies in Biomedical Engineering	G 1 - 16	7040 Clinical Informatics	G 3	
Provides the opportunity to pursue special studies or research in biomedical engineering not otherwise covered.			This course provides training in the theories, methods, and application of clinical informatics (CI). CI is the field concerned with the use of data and information technology applied to the delivery of healthcare services. CI has a wide array of healthcare delivery application areas in the clinical domain, including: pharmacy, nursing, and patient care operational areas. There are no formal prerequisite course requirements, but a familiarity with United States healthcare delivery and medical terminology is strongly encouraged.	
Prereq: Permission of instructor. Repeatable. This course is graded S/U.				
8194 Group Studies in Biomedical Engineering	G 1 - 6	7810 Advanced Topics in Clinical Informatics	G 3	
Provides groups of students opportunities to pursue special studies not otherwise offered.			An in-depth review of practical theories and methods employed in the design, implementation and management of complex clinical information systems.	
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			Prereq: 710, or permission of instructor. Not open to students with credit for 810.	
8810 Biomedical Engineering Seminars I	G 0	7830 Systems Biology	G 3	
First course in two course sequence. Seminar series for introducing the state-of-the-arts development of biomedical engineering.			Critical analysis of experiments in systems biology.	
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 881.01, 881.02, or 881.03. This course is progress graded (S/U).			Prereq: 730 or IBGP 705, or permission of instructor. Not open to students with credit for 830.	
8811 Biomedical Engineering Seminars II	G 1	7891 Seminar in Biomedical Informatics	G 1	
Second course in two course sequence. This is a seminar series for introducing the state-of-the-arts development of biomedical engineering.			Faculty, trainees, and outside speakers will give presentations on current biomedical informatics (BMI) and BMI-related research and theory. Alternate classes will consist of journal-club style discussions moderated by faculty.	
Prereq: 8810 (881.01 or 881.02), or permission of instructor. Not open to students with credit for 881.03. This course is graded S/U.			Prereq: Permission of instructor. Not open to students with credit for 881. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.	
8812 Biomedical Engineering Seminars III	G 0	7999 Thesis Research in Biomedical Informatics	G 1 - 15	
Seminar series for introducing the state-of-the-arts development of biomedical engineering.			Research for thesis purposes only.	
Prereq: 8811 or 881.03, or permission of instructor. Not open to students with credit for 881.04 or 881.05. This course is progress graded (S/U).			Prereq: Permission of instructor. Repeatable to a maximum of 99 cr hrs or 20 completions.	
8813 Biomedical Engineering Seminars IV	G 1	This course is graded S/U.		
Second course in two course sequence. This is a Seminar series for introducing the state-of-the-arts development of biomedical engineering.				
Prereq: 8812 (881.04 or 881.05), or permission of instructor. Not open to students with credit for 881.06. This course is graded S/U.				
8999 Biomedical Engineering Research for Dissertation	G 1 - 16	8030.01 Special Topics in BMI: Computational Biology and Bioinformatics	G 1 - 5	
Research for dissertation purposes only.			This is an advanced discussion-based seminar exploring new methods, technologies, and research in computational biology and bioinformatics.	
Prereq: Permission of instructor. Repeatable. This course is graded S/U.			Prereq: Grad standing in a graduate program of study and permission of the instructor. Repeatable to a maximum of 27 ch hrs or 9 completions.	
Biomedical Informatics				
5710 Introduction to Biomedical Informatics	U G 3	8040.01 Special Topics in BMI: Clinical and Translational Informatics	G 1 - 5	
A survey of biomedical informatics theories and methods employed in the design, implementation and management of information systems supporting basic science, clinical and translational research, clinical care, and public health. Recommended course work in computer science, statistics, anatomy, physiology, and medical terminology.			This is an advanced discussion-based seminar exploring new methods, technologies, and research in clinical and translational informatics.	
Prereq: Not open to students with credit for 710.			Prereq: Grad standing in a master, doctoral, or professional program; and permission of the instructor. Repeatable to a maximum of 27 ch hrs or 9 completions.	

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8050.01 Special Topics in BMI: Data Science	G	1 - 5	3998 BMS Undergraduate Research	U	1 - 4			
This is an advanced discussion-based seminar exploring new methods, technologies, and research in biomedical data analytics and data science.								
Prereq: Graduate standing in a master, doctoral, or professional program; and permission of the instructor. Repeatable to a maximum of 27 cr hrs or 9 completions.								
8130 Analysis and Applications of Genome-Scale Data	G	3	4200H Concepts in Healthcare I: Humanistic and Social Issues in Medicine & Biomedical Science	U	3			
This course introduces trainees to the fundamental algorithms needed to understand and analyze genome-scale expression data sets. The course will cover three major kinds of applications: Class Comparison, Class Discovery, and Class Prediction. We will also discuss methods for cross-validation and independent validation of predictive models. R software environment will be introduced and utilized.								
8150 Rigorous and Reproducible Design and Data Analysis	G	3	Experiential initiation into the humanistic aspects of patient centered medicine for seniors in the Biomedical Science major. Communication process between patient and professional, between professionals, team work & leadership in medicine examined.					
Students will learn to: computationally analyze datasets using best practices in experimental design and analysis; use the R language to analyze datasets from transcriptome, genome, and clinical studies; use examples from experimental design literature that are rigorous and with built-in flaws; identify sources of bias and the impact these have on results/conclusions.								
This course is graded S/U.								
8193 Individual Studies in Biomedical Informatics	G	1 - 5	4210H Concepts in Healthcare II: Introduction to Health Policy and Leadership in Healthcare	U	3			
Graduate study of a selected topic.								
Prereq: Grad standing and permission of instructor. Repeatable to a maximum of 27 cr hrs or 9 completions. This course is graded S/U.								
8999 Research in Biomedical Informatics	G	1 - 15	Students will examine the political, social, and economic forces that have shaped health policy in the U.S. and the basic concepts of leadership in preparation for a career in a health care profession, biomedical research, or other careers.					
Research for thesis or dissertation purposes only.								
Prereq: Permission of instructor. Repeatable to a maximum of 99 cr hrs or 20 completions. This course is graded S/U.								
This course is graded S/U.								
Biomedical Science								
1100 Biomedical Science Survey	U	1	4810H Special Topics in Biomedical Science I: Immunology & Infectious Disease	U	3			
Introduction to the Biomedical Science major and College of Medicine. Emphasis on academic requirements and resources, career exploration, university policies, and student rights and responsibilities.								
Prereq: Enrollment in Biomedical Sciences major, or permission of instructor. Not open to students with credit for 100.								
2891H Mastering the Biomedical Literature I	U	2	Integrative research and application experience for seniors in the Biomedical Science major. Special topics in biomedical science combine basic science research and clinical applications to human disease processes.					
First course in a two semester series. Includes searching for, organizing, and analyzing the biomedical literature for applications in biomedical research and scholarly communication.								
Prereq: Honors standing, and Biomedical Science Major; or permission of instructor. Not open to students with credit for 220.01H or 220.02H.								
2892H Mastering the Biomedical Literature II	U	2	Prereq: Honors standing, 2891H, and a Biomedical Science Major; or permission of instructor. Not open to students with credit for 320.01H or 320.02H. This course is graded S/U.					
2900H Biomedical Science Laboratory Techniques	U	2	4820H Special Topics in Biomedical Science II: Genetics & Neurological Disease	U	1½			
Lab exercises to teach the theory and practice of basic techniques in cell and molecular biology: including tissue isolation, protein analysis, microscopy, DNA isolation, PCR, bacterial and mammalian cell transfections, and product analysis.								
Prereq: Honors standing, Biology 1113 & 1114 or equivalent, General Chemistry or equivalent, and a Biomedical Science Major; or permission of instructor. Not open to students with credit for 480H.								
3193 Individual Studies	U	1 - 4	4830H Special Topics in Biomedical Science III: Cancer Research; Bench to Bedside and Back	U	1½			
An individualized program of study or research experience for BMS students.								
Prereq: A Biomedical Science Major, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.								
3194 Group Studies	U	1 - 4	Integrative research and application experience for seniors in the Biomedical Science major. Special topics in biomedical science combine basic science research and clinical applications to human disease processes.					
A specially designed program of study for BMS students.								
Prereq: A Biomedical Science Major, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.								
3891H Biomedical Science Research Experience I	U	5	Prereq: Enrollment in College of Medicine, and permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is progress graded (S/U).					
An intensive research experience for BMS students. Students spend 20-25 hrs/wk in a research lab. Class meetings for three oral presentations and written reports of 1) the lab, 2) an experimental technique, and 3) a formal research proposal.								
Prereq: Honors standing, and a Biomedical Science Major; or permission of instructor. Not open to students with credit for 720.01, 720.02, or 720.03.								
3892H Biomedical Science Research Experience II	U	5	4998H BMS Undergraduate Thesis Research	U	1 - 4			
An intensive research experience for BMS students. Students spend 20-25 hrs/wk in a research lab. Class meetings for three oral presentations and written reports of 1) Journal Club article, 2) a poster presentation, and 3) a final report.								
Prereq: Honors standing. Not open to students with credit for 720.01, 720.02, or 720.03.								

Biomedical Sciences Graduate Program

5194 Introduction to Agent-Based Modeling Using NetLogo	U G	3
Teaches agent-based modeling techniques using NetLogo software. Students will develop agent-based models of complex systems drawn from Ecology, Biology, Sociology, Engineering, and Business. Computer literacy is recommended. A course in deductive logic or programming recommended. Students should download NetLogo and look over documentation before class begins.		
Prereq: Honors standing, and enrollment in Biomedical Sciences major, or permission of instructor. Repeatable to a maximum of 14 cr hrs or 14 completions. This course is graded S/U.		
6700 Patient-Centered Research	G	2
Lectures and small group discussions will cover an introduction to humanistic aspects of medical research and human experimentation, including historical, socio-political, economic, and ethical aspects.		
Prereq: Enrollment in College of Medicine, and permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is progress graded (S/U).		
7000 Concepts in Biomedical Science	G	6
An exploration of selected topics in biomedical sciences, ranging from molecular and cellular to systems. An emphasis is placed on fundamental concepts and critical reading of the primary literature. The course combines traditional lectures within student presentations and weekly in-class discussions of published papers.		
Prereq: Enrollment in IBGP/Biomedical Sciences PhD program, or permission of instructor.		
7040 Research Problem Solving in Biomedical Science	G	4
Students in small groups will analyze current and classic research papers and learn how to identify the hypothesis, test the hypothesis, and whether the results support the conclusions.		
Prereq: 7000, or equiv, or permission of instructor. Not open to students with credit for 704.		
7060 Faculty Research in Biomedical Science	G	1
IBGP faculty members will present current research in their laboratories that could provide the basis for student laboratory rotations and dissertation research.		
Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 706. This course is graded S/U.		

Biomedical Sciences Graduate Program 57

7070 Fundamentals of Grant Writing

G 4

Introduce students to the basics principles of grant writing.

Prereq: Enrollment in BSGP, Master in Medical Science Program, or permission of instructor. Not open to students with credit for 7070 and 7080.

7080 Fundamentals of Grant Writing II

G 2

Introduce students to principles of grant writing. Students will also write their own grants in the style of NIH submissions. Students will also learn about the grant review process.

Prereq: 7070, and enrollment in IBGP, or permission of program director. This course is progress graded (S/U).

7400 Selected Topics in Microbial Pathogenesis

G 2

Student led discussions of classic and current literature in microbial pathogenesis.

Repeatable to a maximum of 4 cr hrs.

7402 Microbial Pathogenesis Journal Club

G 2

Weekly, one student will present a current paper from the literature that represents some aspect of Host-Pathogen interactions. The presentation will include background and figures from respected top-tier journals. Prior to class, all students turn in summary of manuscript and two questions. Class grades determined by presentation evaluation, written summary of manuscript and participation.

Prereq or concur: 7724, or Microbio 7020, or permission of instructor.

7602 Independent Studies in Human Histology

G 2

Students will independently follow provided study guides to gain an understanding of the human histology essential for understanding the mechanism of human diseases.

Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.02.

7710 Clinical Experience in Cardiology-Coronary Care General Cardiology

G 2

Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to cardiology-coronary care thus enhance their ability to perform translational research.

Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.10.

7721 Clinical Experience in Gastroenterology Outpatient

G 2

Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to gastroenterology and thus enhance their ability to perform translational research.

Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.21.

7730 Clinical Experience in Infectious Diseases

G 2

Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to infectious diseases and thus enhance their ability to perform translational research.

Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.30.

7734 Clinical Experience in Neurology

G 2

Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to neurology and thus enhance their ability to perform translational research.

Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.34.

7739 Clinical Experience in Oncology

G 2

Clinical experience in hospital wards and in the ambulatory environment in a clinical area related to oncology and enhancement of the ability to perform translational research.

Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.39.

7761 Clinical Experience in Pulmonary

G 2

Clinical experience in hospital wards and in the ambulatory environment in a clinical area related to pulmonary and enhancement of the ability to perform translational research.

Prereq: Enrollment in IBGP, and permission of program directors. Not open to students with credit for 765.61.

7830 Phytochemicals in Human Health: Crops to the Clinic

G 3

Covers the function and control of phytochemicals in plants, the function of phytochemicals in human health, delivery of phytochemicals through foods in the diet, strategies when designing studies examining foods for health, and policy and sustainability considerations.

Prereq: Biochem 4511 (511) or 5613 (613), or equiv; or permission of instructor. Not open to students with credit for FdScTe 7810. Cross-listed in HCS, HumnNtr, FdScTe, and PubHEpi.

7880 Vaccine Immunology

G 1

This course explores the theory and practice of developing viral vaccines by discussion of the relevant virology and immunology. It is a combination seminar and work in progress course in which trainees present relevant recent papers as well as their own work. Discussion is encouraged led by the presenter and by the 4-8 Center faculty members who attend each presentation.

Prereq: 7000. This course is graded S/U.

7890 Immunological Research of Pediatric Diseases

G 1

Trainees will prepare and give presentations on current research on immunological mechanisms of pediatric diseases.

Prereq: Enrollment in IBGP, and permission of instructor. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

7900 Cancer Immunology: Critical Journal Readings

G 1

Faculty, students and postdoctoral fellows will give critical interpretations of research and journal readings on cancer immunology.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7930 Individual Studies in Integrated Biomedical Science

G 1 - 15

A research project will be assigned by a faculty member to meet the individual student's educational goals.

Prereq: Enrollment in IBGP, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 10 completions. This course is graded S/U.

7950 Host-Pathogen Interactions: Research Seminar

G 1

Faculty, students and outside speakers will give research presentations on microbial-host interactions.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7960 Research Seminars in Heart and Lung Disease

G 1

Faculty and outside speakers will give basic and clinical science research seminars on mechanisms of heart and lung disease.

Prereq: Enrollment in IBGP, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7972 Integrated Biomedical Science Senior Seminar

G 1

Senior IBGP graduate students will present research work and be advised and critiqued by other senior students and a faculty advisor.

Prereq: Enrollment in IBGP, and Grad standing. Repeatable to a maximum of 3 cr hrs.

7975 Medical Scientist Student Seminar Series

G 1

The Medical Scientist Student Seminar Series is a twice monthly forum for MSTP trainees to present research-in-progress, clinical cases, or journal club to their peers. Programmatic sessions (recruitment, new initiatives, etc.) and professional development (F30/F31, career path, vertical mentoring) sessions will be integrated into the schedule each semester.

Prereq: Enrollment in the Medical Scientist Training Program. Repeatable to a maximum of 10 cr hrs. This course is progress graded (S/U).

7980 Seminar in Pediatric Research

G 1

Faculty and outside speakers will give presentations on research in biological mechanisms of pediatric disease.

Prereq: Enrollment in IBGP, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

8050 Research Techniques and Resources

G 4

Survey of research techniques used to solve problems in modern cell and molecular biology, immunology, biochemistry, microbiology, microscopy, laboratory safety, and related available resources.

Prereq: Enrollment in IBGP, or permission of course director. Not open to students with credit for 805.01.

8510 Advanced Seminar in Integrated Biomedical Science

G 1

Interdisciplinary biomedical topics will be reviewed in depth with student participation in analyzing literature, and faculty and outside experts presenting their own original research.

Prereq: Enrollment in IBGP, or permission of instructor. This course is graded S/U.

8800.01 Signature Program Translational Science Curriculum "Immunology and Inflammation"

G 2

Translational Science to understand inflammatory diseases, viral diseases, cancer, and wound healing.

Prereq: Enrollment in MD or DO degree program, or permission of instructor.

8800.02 Signature Program Translational Science Curriculum "Infection & Host/Pathogen Science"

G 2

Translational Science to understand inflammatory diseases, viral diseases, cancer, and wound healing.

Prereq: Enrollment in MD or DO program, or permission of instructor. Cross-listed in IntMed.

8800.03 Signature Program Translational Science Curriculum "Regenerative Medicine & Wound Healing"

G 2

Translational Science to understand inflammatory diseases, viral diseases, cancer, and wound healing.

Sum Sem. Prereq: Enrollment in MD or DO program, or permission of instructor.

8800.04 Signature Program Translational Science Curriculum "Cancer Biology & Therapeutics"

G 2

Translational Science to understand inflammatory diseases, viral diseases, cancer, and wound healing.

Prereq: Enrollment in MD or DO degree program, or permission of instructor.

58 Biomedical Sciences Graduate Program

8800.05	Signature Program Translational Science Curriculum "Genomic Medicine and Pharmacogenomics"	G	3
Translational Science to understand current genomic medicine, pharmacogenomics literature, and design of genomics research projects, with emphasis on clinical applications.			
Prereq: Enrollment in MD or DO degree program, or permission of instructor.			

8999	Research in Integrated Biomedical Science	G	1 - 12
Research for dissertation purposes only.			
Prereq: Enrollment in IBGP, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 10 completions. This course is graded S/U.			

Biophysics

6000	Topics in Research Proposal Writing	G	1
Course is designed to be a "writing lab" where students produce and critique research writing. Primarily, the focus will be proposal writing with NIH/NSF grant-writing strategies. Additional time will be devoted to developing manuscripts and poster presentations.			
Repeatable to a maximum of 2 cr hrs.			

6697	Study at a Foreign Institution	G	1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.			
Prereq: Permission of program director. Repeatable to a maximum of 45 cr hrs or 45 completions. This course is progress graded (S/U).			

6702	Advanced Experimental Methods in Biophysics	G	1 - 3
Advanced Experimental Methods in Biophysics.			
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.			

6789	Free Radicals in Biomedicine	G	2
Background in free radical biology and medicine focused on biologically relevant radicals, their physiological and pathophysiological roles and underlying physico-chemical processes. Grad credit in BioChem, Phys Chem, or Biophys recommended.			
Sp Sem. Prereq: Permission of instructor (Ugrd only). Cross-listed in IntMed.			

6795	Seminar in Biophysics	G	1
Seminar in Biophysics.			
Repeatable to a maximum of 20 cr hrs. This course is graded S/U.			

7600	First-Year Student Orientation	G	1
Orientation for first-year students in Biophysics and partner graduate programs; lectures on topics important for successful graduate experience; training in presenting scientific work; training in research ethics.			
Prereq: Not open to students with credit for MCDBio 7600, MolGen 7600, OSBP 7600 (760), or Micrbio 7600. This course is graded S/U. Cross-listed in MCDBio, MolGen, OSBP, and Micrbio.			

8193	Individual Studies	G	1 - 5
Any particular subject that is not part of the regular curriculum.			
Prereq: Permission of instructor and program director. Repeatable. This course is graded S/U.			

8998	Research in Biophysics	G	1 - 15
Research for thesis and dissertation purposes.			
Prereq: Enrollment in a Ph.D. program. Repeatable. This course is graded S/U.			

8999	Research in Biophysics	G	1 - 3
Research credit for students who are post candidacy exam.			
Repeatable. This course is graded S/U.			

Biotechnology

1201T	Exploring Biochemical Sciences and Biotechnology	U	1/2
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.			

2194T	Group Studies	U	1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			

2218T	General and Applied Entomology	U	3
Classification, identification, life cycles, external/internal structures, and functions of insects; common insect pests and their damage; methods of control and their applications.			
Prereq: Not open to students with credit for 218T or LabBioSc 218T. This course is available for EM credit.			

2219T	Pesticides and their Use	U	3
A study of the classification of pesticides and their mode of action, physiological effects, persistence in the environment, benefits, hazards, use, performance and regulation.			
Prereq: Not open to students with credit for 219T or LabBiosc 219T. This course is available for EM credit.			

Bosnian/Croatian/Serbian

1101	Elementary Bosnian/Croatian/Serbian I	U	4
Introduction to Bosnian/Croatian/Serbian; development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of these languages through regular course enrollment or EM credit, or to students with 2 or more years of study in these languages in high school, except by permission of department.			

Prereq:	Not open to students with credit for SrbCroat 101. This course is available for EM credit. GE for lang course. FL Admis Cond course.	U	4

1102	Elementary Bosnian/Croatian/Serbian II	U	4
Continued development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of these languages through regular course enrollment or EM credit.			

Prereq:	BCS 1101 (SrbCroat 101.01). Not open to students with credit for SrbCroat 102 or 103. This course is available for EM credit. GE for lang course. FL Admis Cond course.	U	4

1103	Intermediate Bosnian/Croatian/Serbian I	U	4
Continued development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of these languages through regular course enrollment or EM credit.			

Prereq:	BCS 1102 (SrbCroat 102.01). Not open to students with credit for SrbCroat 104. This course is available for EM credit. GE for lang course.	U	4

2104	Intermediate Bosnian/Croatian/Serbian II	U	4
Increasing functional ability in speaking, listening, reading, and writing practice, vocabulary-building; new grammar structures; start developing higher-level language skills in Bosnian/Croatian/Serbian. Not open to native speakers of this language through regular course enrollment or EM credit.			

Prereq:	BCS 1103 (SrbCroat 104.01). Not open to students with credit for SrbCroat 407.01, or for 5 qtr cr hrs of 407.51.	U	3

3101	Advanced BCS I	U	3
Further develop speaking, listening, reading, and writing skills and grammar competence.			

Prereq:	2104. Not open to students with credit for Slavic 5194 (Au13, Mihalicek).	U	3

3102	Advanced BCS II	U	3
Advanced BCS; second semester.			

Prereq:	3101.	U	3

Business Admin

1100	College of Business Survey	U	1
Academic requirements; policies procedures and resources; student rights and responsibilities; academic areas of specialization; careers in accounting and business administration.			

Prereq:	NFYS, or a transfer student in direct enrollment program in BUS; and permission of instructor or department. Not open to students with credit for any OSU survey course.	U	1

1100H	College of Business Survey	U	1
Academic requirements; policies procedures and resources; student rights and responsibilities; academic areas of specialization; careers in accounting and business administration.			

Prereq:	Honors standing, and NFYS standing in direct enrollment program in BUS and permission of instructor or department. Not open to students with credit for any OSU survey course.	U	1

1101.01	Business Administration Seminar: Scholars	U	1
Seminar for first-year business scholars students to explore personal interests, interdisciplinary opportunities, campus and local community resources and activities related to business scholars program.			

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2191.02 Professional Experience Field Study

U ½

For students completing a session long internship requiring credit; internship is supervised by the employer, three assignments related to the internship are evaluated by the Director, Undergraduate Internship Services.
Prereq: Admission to College of Business major program and specialization, and permission of instructor. Not open to students with more than 3.5 credit hours of 2191 or 2191.01. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

2292H Business Skills & Environment

U 3

Introduction to the role of business in the lives of individuals, consumers, employees, and citizens. Focus on the concept of ethical leadership with emphasis on both oral and written communication skills for the business environment.
Prereq: Honors standing, and admission to BSBA program. Not open to students with credit for BusMHR 2291, 2292 or BusAdm 499 or 499H.

2600 Undergraduate Speaker Series

U 1

Alumni from the Fisher College of Business will discuss their specializations, and companies to assist students in making career decisions. Emphasis on networking and business communications.
Prereq: Enrollment in College of Business. Not open to students with credit for 503. This course is graded S/U.

2601 Job Search Preparation and Transition to Work for Business Students

U ½ - 1

Practical techniques and skill development in conducting a job/internship search, researching career information, evaluating career decisions and beginning a successful career.
Prereq: Soph standing, and enrollment in the Fisher College of Business Major Program and Specialization. Not open to students with credit for 501.01. Repeatable to a maximum of 1 cr or 2 completions.

2798 Study Tour: International

U ½ - 3

Designed to provide an orientation to students who will embark on an international experience and once there, will enable students across countries to learn from each other.
Prereq: Permission of instructor. Not open to students with credit for 498.02. Repeatable to a maximum of 9 credit hours or 3 completions.

3520 Entrepreneurship and Innovation: Fundamentals of New Product Development

U 3

Provide an understanding of the entire product development process, from the first stages of problem definition to the finished product.
Prereq: BusMHR 3510.01.

3531 Entrepreneurship and Innovation: General, Startup-Based Entrepreneurship

U 3

Transformation of knowledge captured through creative, person-centered design into conceptual, viable, commercial concepts in the area of product/service based general entrepreneurship and entrepreneurial start-ups. Examination of a variety of business models appropriate for commercializing product/service based conceptualizations.
Prereq: 3510, and Design 2700 and MechEng or ISE 5682.

3532 Entrepreneurship and Innovation: Corporate Entrepreneurship

U 3

Develop skills and understanding of theories and their application to develop new ideas and viable new businesses within an established firm. Address the development of an internal culture of innovation, processes for reviewing ideas and developing concepts, strategic analysis, positioning for competitive advantage, forms of corporate ventures, and the qualities of corporate entrepreneurs.
Prereq: 3510, and Design 2700 and MechEng or ISE 5682.

3533 Entrepreneurship and Innovation: Technology Entrepreneurship

U 3

Examine the innovative transformation of knowledge captured in scientific discoveries into conceptual, viable, commercial products and services.
Prereq: 3510, and Design 2700 and MechEng or ISE 5682.

3630.01 Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Previous enrollment in 3630.01, or admission to Business Industry Cluster Program, or permission of instructor. Not open to students with credit for 505.01.

3630.01E Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Admission to BSBA Honors Contract Industry Cluster Program.

3630.02 Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business majors to learn strategy and implementation details from current industry professionals.
Prereq: Previous enrollment in 3630.02, or enrollment in Business Industry Cluster Program, or permission of instructor. Not open to students with credit for 505.02.

3630.02E Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Admission to BSBA Honors Contract Industry Cluster Program.

3630.03 Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Previous enrollment in 3630.03, or admission to Business Industry Cluster Program, or permission of instructor. Not open to students with credit for 505.03.

3630.03E Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Admission to BSBA Honors Contract Industry Cluster Program.

3630.04 Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Previous enrollment in 3630.04, or admission to Business Industry Cluster Program, or permission of instructor. Not open to students with credit for 505.04.

3630.04E Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Admission to BSBA Honors Contract Industry Cluster Program.

3630.05 Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Previous enrollment in 3630.05, or admission to Business Industry Cluster Program, or permission of instructor. Not open to students with credit for 505.05.

3630.05E Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details for current industry professionals.
Prereq: Admission to the BSBA Honors Contract Industry Cluster Program.

3630.06 Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Admission to Business Industry Cluster Program, or permission of instructor.

3630.06E Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Admission to BSBA Honors Contract Industry program.

3630.07 Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Admission to Business Industry Cluster Program, or permission of instructor.

3630.07E Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Admission to BSBA Honors Contract Industry cluster program.

3630.08 Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Admission to Business Industry Cluster Program.

3630.08E Business Industry Cluster

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Admission to BSBA Honors Contract Industry Cluster program.

3630.09 Business Industry Immersion

U 3

Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.
Prereq: Admission to Business Industry Immersion Program, or permission of instructor.

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3630.10 Business Industry Immersion	U	3	3640.01 Introduction to Sustainability in Business I: Principles and Concepts	U	3
Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals.			An introduction to the topic of sustainability in business.		
Prereq: Admission to Business Industry Immersion Program, or permission of instructor.			Prereq: Must be in Business Industry Cluster Program.		
3632.01 Business Industry Cluster Project Experience	U	3	3640.01E Introduction to Sustainability in Business I: Principles and Concepts	U	3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			An introduction to the topic of sustainability in business.		
Prereq: Enrollment in Business Industry Cluster Program, or permission of instructor. Prereq or concur: 3630.01. Not open to students with credit for 506.01.			Prereq: Admission to BSBA Honors Contract Industry Cluster Program.		
3632.01E Business Industry Cluster Project Experience	U	3	3640.02 Introduction to Sustainability in Business I: Principles and Concepts	U	3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			An introduction to the topic of sustainability in business.		
Prereq: 3630.01E, and admission to BSBA Honors Contract Industry Cluster program.			Prereq: ENR 2500 or ADEcon 2500. Not open to students with credit for BusMHR 504.01, 504.02 or 694.11 or BusAdm 3640.01.		
3632.02 Business Industry Cluster Project Experience	U	3	3642.01 Introduction to Sustainability in Business II: Applications, Solutions and Project Experience	U	3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			Field projects on sustainable business issues.		
Prereq: Enrollment in Business Industry Cluster Program, or permission of instructor. Prereq or concur: 3630.02. Not open to students with credit for 506.02.			Prereq: 3640.01, or permission of instructor.		
3632.02E Business Industry Cluster Project Experience	U	3	3642.01E Introduction to Sustainability in Business II: Applications, Solutions and Project Experience	U	3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			An introduction to the topic of sustainability in business with a concentration on the applications and solutions.		
Prereq: 3630.02E, and admission to BSBA Honors Contract Industry Cluster program.			Prereq: 3640.01E, and admission to BSBA Honors Contract Industry Cluster Program. Not open to students with credit for 3640.02 or 3642.02.		
3632.03 Business Industry Cluster Project Experience	U	3	3642.02 Introduction to Sustainability in Business II: Applications, Solutions and Project Experience	U	3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			Field projects on sustainable business issues.		
Prereq: Enrollment in Business Industry Cluster Program, or permission of instructor. Prereq or concur: 3630.03. Not open to students with credit for 506.03.			Prereq: 3640.02, or permission of instructor. Not open to students with credit for BusMHR 504.03 or 694.13.		
3632.03E Business Industry Cluster Project Experience	U	3	3760 Exploring Culture in International Environments	U	1
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			Through individual reflections, activities, and discussions, students participating in Fisher's International Student Exchange Program will be challenged to view knowledge and experiences from multiple perspectives.		
Prereq: 3630.03E, and admission to BSBA Honors Contract Industry Cluster Program.			Prereq: Accepted into a Fisher International Exchange Program. Repeatable to a maximum of 2 cr hrs. This course is graded.		
3632.04 Business Industry Cluster Project Experience	U	3	3890H Honors Seminar	U	1 - 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			Seminar on current business topics for students enrolled in the Business Administration Honors Programs. Topics may vary.		
Prereq: Enrollment in Business Industry Cluster Program, or permission of instructor. Prereq or concur: 3630.04. Not open to students with credit for 506.04.			Prereq: Admission to a Business Administration Honors Program. Repeatable to a maximum of 6 cr hrs of 4 completions.		
3632.04E Business Industry Cluster Project Experience	U	3	4189 Advanced Field Study: Doing Business in a Global Region	U	1
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			Required pre-departure component of Fisher College of Business Global Internship Program for Undergraduates.		
Prereq: 3630.04E, and admission to BSBA Honors Contract Industry Cluster Program.			Prereq: Admission to Fisher College of Business Global Internship Program, and permission of instructor. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.		
3632.05 Business Industry Cluster Project Experience	U	3	4191 Professional Experience in Business	U	0
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			Students complete a co-op or internship assignment in private industry or for a government agency; assignment is supervised by the employer and monitored and evaluated by the course coordinator.		
Prereq: Enrollment in Business Industry Cluster Program, or permission of instructor. Prereq or concur: 3630.05. Not open to students with credit for 506.05.			Prereq: Permission of the Course Coordinator. Repeatable to a maximum of 4 completions. This course is graded S/U.		
3632.05E Business Industry Cluster Project Experience	U	3	4510 Entrepreneurship and Innovation: Practicum	U	3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			Last required course in the Entrepreneurship and Innovation Minor. Application of tools and resources to real-world projects.		
Prereq: 3630.05E, and admission to BSBA Honors Contract Industry Cluster program.			Prereq: 3510 and 3531, 3532, 3533 or BusMHR 5530, and Design 2700, and MechEng or ISE 5682.		
3632.06 Business Industry Cluster Project Experience	U	3	4798 Study Tour: International	U	1 - 10
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Repeatable for different titled study tours only.		
Prereq 3630.06, and enrollment in Business Industry Cluster Program; or permission of instructor.			Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions.		
3632.06E Business Industry Cluster Project Experience	U	3	4890H Honors Seminar	U	1½
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			Seminar on current business topics for students enrolled in the Business Administration Honors Programs. Topics may vary.		
Prereq: 3630.06E, and admission to BSBA Honors Contract Industry Clusters program.			Prereq: 3890H. Repeatable to a maximum of 3 cr hrs.		
3632.07 Business Industry Cluster Project Experience	U	3	4998 Undergraduate Research in Business	U	1 - 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			Undergraduate Research in Business for non-honors students.		
Prereq 3630.07, and enrollment in Business Industry Cluster Program; or permission of instructor.			Prereq: BusMHR 2291 (499), and Jr standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.		
3632.07E Business Industry Cluster Project Experience	U	3	5797 Study at a Foreign Institution	U G	½ - 18
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.			An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.		
Prereq: 3630.07E, and admission to BSBA Honors Contract Industry Cluster Program.			Prereq: Permission of Undergraduate BSBA Program Director of Student Services.		
3632.08 Business Industry Immersion Project Experience	U	3	Repeatable to a maximum of 36 cr hrs or 10 completions.		
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization.					
Prereq: 3630.08, or permission of instructor.					

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7191 Professional Experience in Business

G 0

International students complete a co-op or internship assignment in private industry or for a government agency; assignment is supervised by the employer and monitored and evaluated by the course coordinator.
Prereq: Permission of the Course Coordinator. Repeatable to a maximum of 4 completions. This course is graded S/U.

Business Admin: Finance

1200 Personal Finance

U 3

Introduction to the field of personal financial management and planning, focusing on the tools individuals and families employ to manage their financial affairs.
Prereq: Not open to students with credit for 220, or enrolled in Accounting or Finance majors.

1250 FINGIS

U 2

There is a broad range of opportunities, in a broad range of industries available to students with a Finance degree. This course is designed to explore these opportunities, in an in-depth manner. The goal of this course is to give the student a 'real world' perspective.
Prereq: Soph standing, and Finance specialization. This course is graded S/U.

3120 Foundations of Finance

U 3

Develops skills related to Time Value of Money, Risk and Return with applications in business and personal finance.
Prereq: AcctMIS 2000 (310), Math 1130 (130) or equiv, Econ 2001.01 (200), and CSE 100 or equiv. Not open to students with credit for 3220 (620) or 420. Not open to students enrolled in the BSBA program.

3194 Group Studies

U 1 - 6

Group study projects in selected areas of finance.
Prereq: Permission of instructor. Not open to students with credit for 494.

3220 Business Finance

U 3

Introductory finance class which allows students develop the skills to understand how financial managers make value-maximizing decisions for their firms.
Prereq: Econ 2001.01 (200), and 2002.01 (201), and AcctMIS 2200 (211). Prereq or concr: AcctMIS 2300. Not open to students with credit for 620, or to students enrolled in UUSS, UExp or PreBSBA-PR.

3222 Foundations of Investments

U 3

Basic principles and methods of investment for non-Business majors.
Prereq: 3120 (420) and AcctMIS 2000. Not open to students with credit for 4221 (722) or 522. Not open to students enrolled in the BSBA program.

3250 Foundations of International Finance

U 3

Management of financial risk inherent with international business; problems of implementing corporate finance principles; International Capital Markets, for non-Business majors.
Prereq: 2200, 3220 (620), or 420. Not open to students with credit for 4250 or 725.

3290 Foundations of Entrepreneurial Finance

U 3

Considers financial challenges facing entrepreneurs, including framing the issues, writing business plans, developing financial strategies, and structuring deals; for non-finance majors.
Prereq: 3120 (420) or 3220 (620). Not open to students with credit for 4215 (590).

3300 Introduction to Insurance and Risk

U 3

Basic principles and main characteristics of the Insurance Industry and the fundamentals of risk identification, insurance contracts, and annuities.
Prereq: Econ 2001.01 (200), 2002.01 (201), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 640.

3400 Introduction to Real Estate

U 3

Examine the economics of property rights, the fundamental theories in urban economics, and selected applications.
Prereq: Econ 2001.01 (200) or 2002.01 (201), and BusMhr 2292 (BusAdm 499.01). Not open to students with credit for 670.

3500 Legal Environment of Business

U 1½

An introduction to American legal institutions, sources of law, and an analysis of basic concepts of public and private law related to business decisions.
Prereq: Soph standing. Not open to students with credit for 510, or to students enrolled in UUSS, UExp or PreBSBA-PR.

4193 Individual Studies

U 1 - 4

Individual study projects in selected areas of finance.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.

4194.21 Group Studies

U 1 - 4

Group study projects in selected areas of finance.
Prereq: Permission of instructor. Not open to students with credit for 694.21.

4194.22 Group Studies

U 1 - 4

Group study projects in selected areas of finance.
Prereq: Permission of instructor. Not open to students with credit for 694.22.

4194.23 Group Studies

U 1 - 4

Group study projects in selected areas of finance.
Prereq: Permission of instructor. Not open to students with credit for 694.23.

4194.24 Group Studies

U 1 - 4

Group study projects in selected areas of finance.
Prereq: Permission of instructor. Not open to students with credit for 694.24.

4194.25 Group Studies

U 1 - 4

Group study projects in selected areas of finance.
Prereq: Permission of instructor. Not open to students with credit for 694.25.

4200 Applications in Finance

U 3

Applications in Finance with a discussion of Investment alternatives such as Money Market instruments, Stocks and Bonds and Corporate Finance issues such as Corporate Governance, Cost of Capital and Capital Budgeting.

Prereq: 3220 (620), BusMgt 2320 (330), and 2321 (331). Not open to students with credit for 4210, 4211, 4212 (721), 4220, 4221, or 4222 (722).

4201 Financial Data

U 1½

How to use relevant accounting information for various applications in finance such as estimating stock and bond prices and free cash flows.

Prereq: 3220 (620), AcctMIS 2200 (211), AcctMIS 2300 (212), BusMgt 2320 (330), and 2321 (331); and BusMHR 2291 or 2292 (BusAdm 499.01).

4202H Honors Financial Data

U 3

This hands-on course covers the application of financial software tools and financial modeling. You will be exposed to real world applications used in corporate finance, investment banking, private equity, and asset management.

Prereq: A CPHR of 3.5 or above, and admission to the Finance Honors Program.

4211 Corporate Finance

U 3

Analysis of advanced capital budgeting problems through understanding the theories and applications of capital structure, leasing and real options. Theories and applications in corporate control, corporate governance and mergers and acquisitions.

Prereq: 3220 (620), AcctMIS 2200, 2300, BusMgt 2320 (330), 2321 (331), and BusMHR 2291 or 2292 (BusAdm 499.01) Not open to students with credit for 721, 4210 or 4212.

4213 Corporate Restructuring and Bankruptcy

U 1½

Corporate finance theories as they relate to spinoffs, restructuring, and bankruptcy.

Prereq: 4211, 4221, 4219, and BusMHR 2292. Not open to students with credit for 721.

4214 Corporate Finance IV

U 1½

A capstone course that allows students to apply their skills and knowledge developed in earlier courses to action-based corporate finance case studies.

Prereq or concr: 4213 and BusMHR 2291 (BusAdm 499.01). Not open to students with credit for 721.

4215 Entrepreneurial Finance

U 1½

The roles of business plans, Angel Investors, and venture capital in private firms.

Prereq: 4211 and 4221. Not open to students with credit for 590.

4216 Private Equity

U 1½

Private equity funds are responsible for a large percentage of merger activity both inside and outside the U.S. The venture capital portion of the private equity industry has provided financing for most of the prominent new companies that have gone public in recent years.

Prereq: 4211, 4221, and 4229.

4217 Venture Capital

U 3

This course provides a comprehensive look into the inner workings of Venture Capital along with the various skill sets required of first year analysts. The class will include case studies and class discussions augmented by lectures from industry experts.

Prereq: 4211 and 4221.

4218 Fixed Income Securities

U 1½

An introduction to the mathematics and evaluation of US Dollar denominated fixed income instruments. Students will learn the underlying terms and conditions used in the fixed income markets and apply Excel based mathematical models to evaluate the pricing, yield, risk, and return attributes in the market.

Prereq: 4201, 4211, 4221, 4250, and CPHR 3.5 or above.

4219 Advanced Corporate Finance

U 3

This course is a capstone undergraduate elective in the area of Corporate Finance. The course helps students bridge the gap between the theory of finance, covered in other courses, and the reality of decision-making as a financial manager through the use of real-world case studies. Students learn to analyze real-world problems and provide recommendations to a best course of action.

Prereq: 4211, 4221, and BusMHR 2291 or 2292. Not open to students with credit for or currently enrolled in 4229 or 4239.

4221 Investments

U 3

Skills for valuation and theories and applications of CAPM, APT, and efficient markets; investment options, forwards and futures, interest rate parity, and relevant market regulation.

Prereq: 3220, BusMgt 2320, 2321, and BusMHR 2292. Not open to students with credit for 722, 4220 or 4222.

4223 Fixed Income

U 1½

The basics of fixed-income securities, bond valuation skill development, and the measurement and management of credit and interest-rate risk.

Prereq: 4211 and 4221. Not open to students with credit for 731.

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4224 Behavioral Finance	U	1½	4255 International Finance	U	3
Theories and implications of behavioral finance, CAPM Anomalies, and advanced Investment strategies.			The goal is to provide a framework for making financial decisions in an international context. The course is divided into three sections: 1) the international financial environment, 2) international investment analysis, and 3) international corporate finance. Students will be exposed to a broad range of topics, including some of the latest developments in global financial markets.		
Prereq: 4211 (721), 4221 (722) and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 722.			Prereq or concur: 4211 and 4221.		
4225 Investment Strategies and Philosophies	U	3	4260 Financial Institutions	U	1½
This course is designed to teach different investment strategies, reveal the beliefs that underlie each one, provide evidence on whether the strategies actually produce results, and what an investor needs to understand in order to implement a philosophy. The strategies covered include value investing, growth investing, technical analysis, market timing, arbitrage, fixed income.			Basic financial institutions that play a role in corporate finance and investments including commercial banks, investment banks, and insurance companies.		
Prereq: 4211 and 4221.			Prereq: 3220 (620), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 726.		
4227 Trading & Markets	U	1½	4265 Financial Institutions	U	3
Action-based course on market design and trading cost analysis, including interactive trading simulation.			Financial Institutions play an extremely important role in the functioning of the global economy and in the operation of our firms. When financial institutions fail to act properly the results can be catastrophic, both for financial markets and greater society as a whole.		
Prereq: 4211, 4221 and BUSMHR 2292. Not open to students with credit for 730.			Prereq or concur: 4211 and 4221. Not open to students with credit for 726.		
4228 Stock Market: Student Investment Management	U	3	4290 Risk Management I	U	1½
Action-based course applying valuation techniques and investment strategies to portfolio management and valuation.			Theories and their implications as they relate to corporate risk management, basic hedging strategies, and the basics of value at risk.		
Prereq: 4211, 4221, BUSMHR 2292 and GPA 3.2 or above. Not open to students with credit for 724.			Prereq: BusMHR 2292 (BusAdm 499.01), 4211 (721), 4221 (722), 4260 (726), 4230 (723), and 4201 or 4250. Not open to students with credit for 729.		
4229 Advanced Investments	U	3	4292 Risk Management II	U	1½
This course explores the valuation of forwards, options, forward-based, and option-based financial instruments. While a student may have studied options and/or forwards in other courses, this course examines in detail the analytical methods used to price these securities, and the analytical analysis of arbitrage, hedging, and speculation using these securities.			In this capstone risk management course, students apply theories of risk management to cases in enterprise risk management.		
Prereq: 4211, 4221, and BusMHR 2291 or 2292. Not open to students with credit for or currently enrolled in 4219 or 4239.			Prereq: 4201, 4211 (721), 4221 (722), 4230 (723), and 4260 (726). Prereq or concur: 4290 and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 729.		
4230 Options & Futures I	U	1½	4310 Commercial Property and Casualty Insurance	U	3
Development of the basic skills to value options, futures, and related derivatives with applications to derivative-based investments such as incentive stock options.			Fundamentals of commercial property and liability insurance, including commercial property and liability contracts, and the regulation and financial analysis of property and liability insurers.		
Prereq or concur: 4210 (721), 4220 (722), and BusMHR 2291 (BusAdm 499.01). Not open to students with credit for 723.			Prereq: 3300 (640), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 749.		
4232 Options & Futures II	U	1½	4311 Life and Health Insurance	U	3
How to value options and option-based derivatives using the Black-Scholes pricing model, plus selected areas of financial engineering and strategies using exotic options.			Basics of the life insurance and health insurance industry and contracts.		
Prereq: 4201, 4211 (721), 4221 (722), 4230 (723), 4250, 4260 (726), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 723.			Prereq: 3300 (640), BusMgt 2320 (330), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 741.		
4235 Applied Fundamental Investing	U	1½	4312 Employee Benefits Plans	U	3
Theories and applications in asset management including the roles of investment strategies.			Fundamentals of insurance topics related to the human resource function such as health and retirement benefits, and COBRA.		
Prereq: 4211, 4221, and CPHR 3.5 or above. Not open to students with credit for 728.			Prereq: BusMgt 2320 (330), 3300 (640), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 741.		
4239 Risk Management	U	3	4410 Real Estate Finance	U	3
Extends the skills developed in Corporate Finance and Investments classes to the role of risk management within the firm. Increasingly, managers are required to understand the many risks facing their organizations, undertaking those risks which represent value-enhancing opportunities, while mitigating unwanted risks.			Basics of the mortgage markets and related finance investments and models of real estate valuation.		
Prereq: 4211 and 4221, and BusMHR 2291 or 2292. Not open to students with credit for or currently enrolled in 4219 or 4229.			Prereq: 3400 (670), or in Finance-BS plan. Not open to students with credit for 772.		
4250 Global Finance	U	1½	4411 Property Management	U	3
Implications for financial managers of global economic policy.			Basic topics related to property management such as acquisition, construction, and supporting business functions.		
Prereq: 3220 (620), AcctMIS 2200 (211), 2300 (212), BusMgt 2320 (330), 2321 (331), and BusMHR 2291 or 2292 (BusAdm 499.01). Not open to students with credit for Econ 520.			Prereq: 3220 (620), 3400 (670), 3500 (510), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 776.		
4250H Honors Global Finance	U	1½ - 3	4412 Real Estate Law	U	3
In this class, we are going to look at the interconnections that link international financial markets and their implications for firms. We will develop a simple model that will help you understand the relationship between the financial markets and macroeconomic policies and the business environment in which firms operate.			Basic legal aspects of property contracts, transactions, and environmental law.		
Prereq: A CPHR of 3.5 or above, and admission to the Finance Honors Program.			Prereq: 3220 (620), 3400 (670), 3500 (510), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 775.		
4251 Booms and Busts	U	3	4413 Planning and Development	U	3
In this course we examine various financial booms, busts and how the field of finance evolved along the way. The purpose of the course is to understand the causes of past financial crises and booms as well as develop a deeper understanding of how the field of finance has progressed.			In this action-based class, students engage in site-based development case studies.		
Prereq: 4211, 4221, and 4201. Prereq or concur: 4250.			Prereq: 3220 (620), 3400 (670), 3500 (510), BusMgt 2320 (330), 2321 (331), and BusMHR 2291 (BusAdm 499.01).		
4252 International Finance	U	1½	4510 Legal Business Issues	U	1½
Theories and applications related to cross-border acquisitions, FOREX risk management, and project finance.			Fundamentals of contracts and other legal aspects of business.		
Prereq: 4211 (721), 4221 (722), 4260 (726), 4230 (723), 4201, 4250, and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 725.			Prereq or concur: 3500 and BusMHR 2291 (BusAdm 499.01). Not open to students with credit for 510.		
4998 Undergraduate Research in Finance	U	1 - 3	4998 Honors Research	U	1 - 3
Undergraduate research in finance for non-honors students.			Special topics research in finance, business law, insurance and risk, and/or real estate; research evaluated through papers, thesis, and/or special examination.		
Prereq: BusAdm 2291 (499), and Jr standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.			Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		

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5402 Real Estate Valuation

U G 3

This real estate valuation and financial modeling course will cover existing income producing property as well as ground up construction. Topics include market analysis, comparable valuation, income valuation, cost valuation, real estate finance, expense reimbursements, budget development, and pro-forma modeling.

Prereq: 3400, and enrollment in RealEst major or minor; or 4211, 4221, and enrollment in Finance major; or 7240; or permission of instructor.

6211 Finance I

G 1½

Covers topics of time value of money, concepts of risk and return, and investment criteria. Prereq: Enrollment in MAcc program. Not open to students with credit for 811.

6212 Finance II

G 1½

Covers capital budgeting, market efficiency, derivatives, interest rate parity.

Prereq: Enrollment in MAcc program. Not open to students with credit for 811.

6220 Financial Analysis and Valuation

G 3

Fundamental techniques for financial analysis such as time value of money, risk and return, capital budgeting and investment criteria, financial accounting, and an introduction to financial derivatives.

Prereq: Enrollment in SMB-Finance program. Not open to students with credit for 860.

6221 Economics for Financial Analysts

G 1½

Principles of how individuals and firms make financial decisions, how financial markets work, and how financial managers make decisions under different forms of industry structure.

Prereq: Enrollment in SMB-Finance program. Not open to students with credit for 861.

6222 Global Financial Markets

G 1½

Principles of how the Federal Reserve and its policies impact financial markets, the institutional environment of global financial markets, and the basics of the foreign exchange market.

Prereq: Enrollment in SMB-Finance program. Not open to students with credit for 861.

6225 Core Capstone Projects - SMF

G 1½

This is a capstone, action-based course for students in the Specialized Masters - Finance (SMF) program offered in the first semester of the program. The course aims at providing SMF students with a structured environment to practice analytical and soft skills acquired throughout the program's core courses.

Prereq: Enrollment in SMB-Finance program.

6226 Finance Consulting Practicum

G 1½

Action-based course providing students in the Specialized Masters Finance the opportunity to practice analytical and soft skills through working with professionals on finance projects. Prereq: Enrollment in SMB-Finance program. Not open to students with credit for 865.

6227 Professional Development for SMF students

G 1½

This course is designed to supplement and enhance the SMF experience. The SMF program develops technical skills in finance, but class participation and team assignments are also essential to success. Class participation is often a significant part of course grades and team are assigned to prepare case briefs.

Prereq: Enrollment in SMB-Finance program. This course is graded S/U.

6230 Accounting & Finance for Analytics

G 3

Students will understand the fundamentals of accounting (managerial and financial) and finance. The course will cover defining financial data, transforming data into information and leveraging financial information to make financial decisions. Students will have hands-on experience with various types of real-world financial data and build a detailed discounted cash flow model.

Prereq: Enrollment in SMB-Analytics program.

7193 Individual Studies

G ½ - 9

Individual study projects in related areas of finance.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.

7194.21 Group Studies

G 1 - 4

Group study projects in selected areas of finance.

Prereq: Permission of instructor.

7194.22 Group Studies

G 1 - 4

Group study projects in selected areas of finance.

Prereq: Permission of instructor.

7200 Financial Software Applications

G 3

This hands-on course covers the application of financial software tools and financial modeling. Exposure to real world applications used in corporate finance, investment banking, private equity, and asset management. Apply models relating to project analysis, capital budgeting, financial statement analysis, equity intrinsic values, capital structure, portfolio mgmt, leveraged buyouts, and M&A.

Prereq: MBA 6223. Priority seating to Finance students.

7210 Corporate Financing

G 1½

Advanced valuation skills and theories and applications in capital structure and security issuance.

Prereq or concur: MBA 6223, or 810. Not open to students with credit for 811 or 863.

7212 Mergers and Acquisitions

G 1½

Advanced theories of and applications in the areas of corporate control and governance and mergers and acquisitions.

Prereq or concur: 7210, 7220, and 7230; or MBA 6223; or 810 and BusFin 811. Not open to students with credit for 821.

7213 Corporate Restructuring and Bankruptcy

G 1½

Advanced corporate finance theories and applications in the areas of spinoffs, restructuring, and bankruptcy.

Prereq or concur: 7210, 7220, and 7230; or MBA 810 and BusFin 811. Not open to students with credit for 821.

7214 Corporate Financial Management IV

G 1½

Advanced case studies in corporate finance.

Prereq or concur: 7212 and 7213 (821), or 811 and MBA 810. Not open to students with credit for 828.

7215 Entrepreneurial Finance

G 1½

Advanced study of the roles of Angel investing, business plans, and venture capital in entrepreneurial finance.

Prereq and concur: MBA 6221 or 6222 (810), or BusFin 6220, or 6221 and 6222. Not open to students with credit for 844 or 846.

7216 Private Equity

G 1½

Theories of and applications in buyouts and private equity transactions.

Prereq or concur: MBA 6221, 6222, or 810. Not open to students with credit for 845.

7218 Fixed Income Securities

G 1½

An introduction to the mathematics and evaluation of US Dollar denominated fixed income instruments. Students will learn the underlying terms and conditions used in the fixed income markets and apply Excel based mathematical models to evaluate the pricing, yield, risk, and return attributes in the market.

Prereq: 6211 and 6212; or MBA 6223; or enrollment in the SMB-Finance program.

7220 Investment Theory and Practice

G 1½

Advanced skills needed for securities valuation, theories and applications related to the CAPM, APT, and efficient markets.

Prereq or concur: MBA 6223, or 810. Not open to students with credit for 822.

7221 Financial Modeling

G 1½

Basic financial modeling techniques in EXCEL.

Prereq or concur: MBA 6221, 6222, BusFin 6211, 6212, or 6220. Not open to students with credit for 849.

7222 Fixed Income Analysis

G 1½

Valuation of fixed income securities as well as measures of their interest rate and credit risk.

Prereq: MBA 6223. Prereq or concur: 7210, 7220, or 7230. Not open to students with credit for 827.

7223 Portfolio Management

G 1½

Advanced investment strategies need for asset management and portfolio allocation.

Prereq: MBA 6223. Prereq or concur: BusFin 7210, 7220 (822), or 7230 (823). Not open to students with credit for 822 or 827.

7224 Trading & Markets

G 1½

Advanced theories of market design applied in an interactive trading simulation, Action-Based.

Prereq: MBA 6221 (810) and 6222 (BusFin 811), or prereq or concur: BusFin 7210, 7220 (822), or 7230 (823). Not open to students with credit for 830.

7225 Student Stock Market Investment Management

G 3

Advanced topics with industry analysis and stock valuation applied to portfolio management.

Prereq: 7210 and 7220, or 822. Not open to students with credit for 824.

7226 Behavioral Finance

G 1½

Theories of behavioral finance, such as Prospect Theory, and their implications for investor behavior and markets.

Prereq or concur: MBA 6221 (810) or 6222 (BusFin 811).

7230 Derivatives Markets

G 1½

Advanced investments class studying how to value options and related instruments using binomial pricing models and how to value and implement strategies using futures.

Prereq or concur: MBA 6223. Not open to students with credit for 823.

7232 Derivatives Valuation and Application

G 1½

Advanced derivatives course covering the Black-Scholes valuation model with applications to financial instruments and other areas of financial engineering.

Prereq: MBA 6223; or prereq or concur: BusFin 7210, 7220, or 7230. Not open to students with credit for 823.

7235 Applied Fundamental Investing

G 1½

To find employment in this industry, it is necessary to know some of the specialized skills that are required, skills above and beyond those taught in typical Investments and Corporate Finance courses. The goal of this course is to provide an introduction to the tools needed to enter the field of professional money management.

Prereq: MBA 6223; or prereq or concur: BusFin 7210, 7220, or 7230. Not open to students with credit for 822 or 827.

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7238	Valuation Analysis	G	1½	8230	Seminar: Corporate Finance Theory	G	1½
	This is a customized course for students in the MBA program and is an extension of the MBA 6223 course taken in the autumn semester. The course will review standard methodologies for valuing firms and equity. These techniques are widely used by analysts in investment banking and equity research.				Covers seminal theories of corporate finance such as those related to capital structures, contracting, and security design.		
	Prereq: MBA 6223, or enrollment in SMB-Finance program.				Prereq: Permission of instructor. Not open to students with credit for 922.		
7240	Principles of Real Estate	G	1½	8240	Seminar: Empirical Corporate Finance	G	1½
	Topics in Real Estate planning and development, property management, and related property laws.				Covers empirical research and mythologies in areas related to capital structure, investment, financial distress and governance.		
	Prereq or concur: MBA 6221 (810), 6222, 6223, BusFin 6211, 6212, or 6220. Not open to students with credit for 870 or 871.				Prereq: Permission of instructor. Not open to students with credit for 922.		
7241	Real Estate Finance	G	1½	8250	Seminar: Advanced Asset Pricing	G	1½
	Advanced topics in real estate valuations with applications to mortgage-related instruments and REITs.				Covers advanced topics in empirical and theoretical asset pricing.		
	Prereq or concur: MBA 6221 (810), 6222, BusFin 6211, 6212, or 6220. Not open to students with credit for 872.				Prereq: Permission of instructor. Not open to students with credit for 922.		
7250	International Finance	G	1½	8260	Seminar: Advanced Corporate Finance	G	1½
	Theories of FOREX, international capital markets, cross-border investments, and their implications for firms.				Covers advanced topics in empirical and theoretical corporate finance.		
	Prereq or concur: MBA 6221 (810) or 6222. Not open to students with credit for 825.				Prereq: Permission of instructor. Not open to students with credit for 924.		
7260	Financial Institutions	G	1½	8280	Seminar: Research in Finance	G	1½
	Main roles of financial institutions used by firms such as commercial banks, investment banks, and insurance companies.				Faculty lead introduction to research areas in Finance to first year finance PhD students.		
	Prereq or concur: MBA 6221 (810) or 6222. Not open to students with credit for 826.				Prereq: Permission of instructor. Not open to students with credit for 880. Repeatable to a maximum of 9 cr hrs.		
7280	Legal Business Issues	G	1½	8290	Seminar: Finance Research Topics	G	1½
	Contract law, tort law, and employment law relevant for financial managers.				Advanced PhD student presentations of research in Finance.		
	Prereq or concur: MBA 6221, 6222 (810), BusFin 6220, or 6211 and 6212. Not open to students with credit for 833.				Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 6 completions.		
7290	Enterprise Risk Management I	G	1½	8999	Research in Finance: Dissertation	G	1 - 12
	Advanced theories of Corporate Risk Management, hedging strategies, and how to measure apply Value at Risk.				Research for dissertation purposes only.		
	Prereq: MBA 6221, 6222 (810) and 6220, or 6211 and 6212. Not open to students with credit for 829.				Repeatable to a maximum of 24 cr hrs or 6 completions. This course is graded S/U.		
7291	Enterprise Risk Management II	G	1½				
	An Action-based Graduate level course. Students apply theories of risk management, hedging strategies, and value at risk to cases.						
	Prereq: 829 or Prereq or concur: 7290. Not open to students with credit for 834.						
7500	Recent Advances in Financial Markets	G	3				
	Presentations to Korean Advanced Institute of Science and Technology (KAIST) students by faculty on current research topics.						
	Prereq: Enrollment in KAIST program. Repeatable to a maximum of 6 cr hrs.						
7521	Building Financial Models	G	1½				
	Advanced topics in financial modeling in EXCEL.						
	Prereq: Enrollment in KAIST program. Not open to students with credit for 849.						
7702	Applied Managerial Economics for Health Sciences	G	2				
	To provide an economics-oriented framework for analyzing managerial and organizational problems, and to further the understanding of how a health science firm's internal rules of the game affect behavior and performance.						
	Prereq: Admission into the Business Minor in Health Sciences.						
7750	Healthcare Finance	G	3				
	Covers the basic concepts and principles of healthcare finance. Includes discussions of financial reporting, cost-allocation, product pricing, budgeting, time-value of money, capital investment analysis, capital-raising, and cash management with a special emphasis on the health care industry. Aimed at current and future managers and executives in leadership roles.						
	Prereq: Admission to a graduate program (doctoral, masters, professional, or graduate non-degree) or a graduate level distance learning curriculum, or permission of instructor. Not open to students in the Fisher College of Business Masters of Business Administration programs, the Masters of Accounting program, or the Specialized Masters in Finance program.						
7800	Advanced Topics in Finance for EMBA	G	1½ - 3				
	Advanced topics in finance for students in the Executive MBA Program.						
	Prereq: Enrollment in EMBA program. Repeatable to a maximum of 15 cr hrs or 7 completions.						
7999	Research in Finance: Thesis	G	1 - 12				
	Research for thesis purposes only.						
	Repeatable to a maximum of 24 cr hrs or 6 completions. This course is graded S/U.						
8210	Seminar: Asset Pricing Theory	G	1½				
	PhD level class covers the theoretical models related to contingent Claims, CAPM, APT, and Black Scholes.						
	Prereq: Permission of instructor. Not open to students with credit for 920.						
8220	Seminar: Empirical Asset Pricing	G	1½				
	Covers empirical asset methods such as the Fama-McBeth techniques and GMM estimation.						
	Prereq: Permission of instructor. Not open to students with credit for 921.						

Business Admin: Management & Human Rsrcs

2000	Introduction to International Business	U	1½
	Basic coverage of world trade and investment problems, and introduction to multinational corporation strategies and the various types of environments in which they do business.		
	Prereq: Econ 2002.01 (201), and Econ 2001.01 (200) or AEDEcon 2001 (200). Not open to students with credit for BusAdm 555. Not open to students enrolled in UUSS, UExp or PreBSBA-PR.		
2210	Personal Leadership and Team Effectiveness	U	3
	Effective management practices and how leadership practices lead to effective team and organizational performance.		
2292	Business Skills & Environment	U	3
	Introduce the role of business in the lives of individuals, consumers, employees, and citizens. Focus on the concept of ethical leadership with emphasis on both oral and written communication skills for the business environment.		
	Prereq: English 1110.01 (110), or equivalent; and admission to the Business Administration major. Not open to students with credit for BusAdm 499, 499.01, or BusMHR 2291. Not open to pre-business students.		
2292H	Business Skills & Environment	U	3
	Introduce the role of business in the lives of individuals, consumers, employees, and citizens. Focus on the concept of ethical leadership with emphasis on both oral and written communication skills for the business environment.		
	Prereq: English 1110.01 (110) or equivalent, honors standing, and admission to the Business Administration major program. Not open to students with credit for 2291, 2292, or BusAdm 499(H).		
2400	IBE Competitive Analysis Seminar	U	1
	Students will develop and apply a series of conceptual models that illustrate interactions between competitive strategy and patterns of technological, market and competitive change. Models will provide means to consider which firms benefit from market change, why existing firms fail to incorporate innovation in a timely manner and the types of markets in which a given firm should invest.		
	Prereq: Admission to the Integrated Business and Engineering major.		
2500	Entrepreneurship	U	3
	Assesses economical, sociological, and psychological foundations of entrepreneurship and its impact on society.		
	Prereq: Not open to students with credit for BusMHR 290. GE soc sci human, nat, and econ resources course.		
3000	Advanced Topics in International Business	U	3
	Advanced topics in international business including strategy, alliances, and exchange.		
	Prereq: 2000 and 2292 (BusAdm 499.01). Not open to students with credit for BusAdm 555.		
3100	Foundations of Management and Human Resources	U	3
	The study of human behavior in organizational settings.		
	Prereq: Math 1130 (130), Econ 2001.01 (200), and CSE 100, or equiv. Not open to students with credit for 400 or 701. Not open to students enrolled in the Fisher College of Business.		
3193	Individual Studies	U	1 - 5
	Individual study projects in selected areas in management and human resources.		
	Prereq: Permission of instructor. Not open to students with credit for BusAdm 493. Repeatable to a maximum of 15 or hrs or 3 completions. This course is graded S/U.		

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3194	Group Studies	U	1 - 5	4193	Individual Studies	U	1 - 5
	Group study projects in selected areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 494.				Individual study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 693. Repeatable to a maximum of 15 cr hrs or 3 completions. This course is graded S/U.		
3200	Managing Individuals in Organizations: Organizational Behavior and Human Resources	U	3	4194.61	Group Studies	U	1 - 5
	Principles for managing the performance of individuals and groups in organizations; introduction to organizational behavior theory and its application to staffing, training, compensation, and appraisal. Prereq: Econ 2001.01 (200) and 2002.01 (201), or equivalent. Not open to students with credit for 3100 (400) or 701. Not open to students enrolled in UUSS, UExp or PreBSBA-PR.				Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 694.51.		
3200H	Managing Individuals in Organizations: Organizational Behavior and Human Resources	U	3	4194.62	Group Studies	U	1 - 5
	Principles for managing the performance of individuals and groups in organizations; introduction to organizational behavior theory and its application to staffing, training, compensation, and appraisal. Prereq: Econ 2001.01 (200) and 2002.01 (201); or equivalents; and enrollment in the Business Administration Honors Cohort Program. Not open to students with credit for BusMHR 701 or 701H.				Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 694.52.		
3211	Leadership and Character	U	3	4194.63	Group Studies	U	1 - 5
	Issues of leadership as related to value-based decision making, character, and personal integrity.				Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 694.53.		
3220	Leadership Legacy	U	3	4194.64	Group Studies	U	1 - 5
	Exposes students to practical applications of good organizational management and leadership practices. Prereq: English 1110.01 or equiv. Not open to students with credit for 542.				Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 694.54.		
3221	Innovation and Leadership	U	3	4194.65	Group Studies	U	1 - 5
	This course is built on intellectual and experiential engagement with innovative leadership. Students are challenged to develop better problem-solving skills in a team-oriented atmosphere, and through the use of creativity, learn to view challenges from new and different perspectives. Cross-listed in ESHESA.				Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 694.55.		
3303	HR Analytics	U	3	4220	Negotiation and Conflict Management	U	3
	This course is intended to prepare students with the necessary tools for using data analysis to inform HR decision-making and to analyze issues and problems in HRM. Prereq: English 1110.01 or equiv.				Introduction to the psychology of bargaining and negotiation, the dynamics of interpersonal and intergroup conflict and its resolution; emphasis on analyzing bargaining and conflict relationships. Prereq: 3100 (400), or 3200 (701), BusMgt 2320 (330), and 2321 (331). Not open to students with credit for 764.		
3400	IBE Innovation Management Seminar	U	1	4221	Concepts and Competencies for Managing People	U	3
	Provides students the opportunity to apply basic competitive analysis theories/tools to analyze "real-world" firms. Prereq: 2400.				Application of concepts to managing oneself and others in real work situations, includes practice of behavioral skills such as delegation, persuasion and performance feedback. Prereq: 2291 or 2292 (BusAdm 499.01); and 3200 (701), and AcctMIS 2200 (211), 2300 (212), and BusMgt 2320 (330), 2321 (331). Not open to students with credit for 704.		
3510	Innovation and Entrepreneurship	U	3	4228	Introduction to Organizational Business Coaching	U	3
	Examines the many dimensions of new business creation and the fostering of innovation. Prereq: Not open to students with credit for 490, 490.01, 3510.01 or 3510.02.				For students interested in building their own organizational and leadership coaching skills; class will explore the various roots and perspectives of modern coaching while building the skills of coaching which center upon but are not limited to deep listening, coaching presence, business acumen, cultural dynamics, and powerful questioning. Prereq: English 1110.01 or equiv.		
3511	Value Creation in the Social Enterprise	U	3	4235	Developing Leaders through Practical Exercises	U	3
	Value creation in social enterprise helps non-profits with various resources needed to aid in their growth and contribute to their sustainability. The course tracks its history, the foundations spearheading the movement, and development of the earned income model. It also covers the legal structures and financing tools in place for non-profits created with a mission to be better served. Prereq: English 1110.01 or equiv.				This course is taught in a layered effect starting with basic leadership principles and ends with complex practical exercises challenging students to become better leaders. The leader development program incorporates leadership principles, practical exercises, case studies, and assessment to train and develop future leaders. Prereq: English 1110.01 or equiv.		
3542	The Accelerator: Planning the Entrepreneurial Venture	U	3	4236	Crucial Conversations	U	3
	Practicum experience for exploring personal entrepreneurship and creating new ventures. Prereq: 2500 (290). Not open to students with credit for BusMHR 491.				Building skills for handling tough conversations; practical ways to manage disagreement and disappointment in a constructive manner. Provides method for straight talk that moves people and positions forward. Principles further build a capacity to hold people accountable while increasing commitment & performance. Drives impact and competitive advantage at the leader, team, and organizational level. Prereq: English 1110.01 or equiv.		
3543	Franchising	U	3	4244	Negotiations	U	3
	Planning, building, and leading franchise organizations and franchising as a growth strategy. Prereq: BusMHR 2500 (290).				This course will explore the major concepts and theories of negotiation and the dynamics of interpersonal and inter-group negotiation and problem-solving strategies. Prereq: English 1110.01 or equiv. Not open to students with credit for 4220.		
3665	Personal Creativity and Innovation	U	3	4320	Human Resource Management in a Market Economy	U	3
	Exploration of how people, places and practices foster personal creativity. Prereq: Not open to students with credit for 390.				Application of economic theory to organizations and labor markets; emphasis on the role of labor market analysis in human resource decision-making. Prereq: 2291 or 2292 (BusAdm 499.01); and 3200 (701), and AcctMIS 2200 (211), 2300 (212), and BusMgt 2320 (330), 2321 (331). Not open to students with credit for 651.		
4010	International Business Strategies	U	1½	4321	International Labor and Human Resource Management	U	3
	This course highlights how firms make decisions to go abroad, select among foreign markets, and develop international strategies to enhance their profitability and long-term competitive advantage. It will also highlight economic and political risks of international business and discuss ways that firms can mitigate these risks. Prereq: 2000.				Examination of the human resource challenges that emerge in multinational organizations, and emphasis on issues to be considered when preparing oneself and others for international assignments. Prereq: 2291 or 2292 (BusAdm 499.01), and 3000 (BusAdm 555), 3200 (701), AcctMIS 2200 (211), AcctMIS 2300 (212), BusMgt 2320 (330) and BusMgt 2321 (331). Not open to students with credit for 763 or 765.		
4020	Cross Cultural Management	U	3	4322	Human Resource Learning: Training and Development	U	3
	Basic elements of culture and its impact upon business. Prereq: 2291 or 2292 (BusAdm 499.01); and 3000 (BusAdm 555), and AcctMIS 2200 (211) and 2300 (212), and BusMgt 2320 (330), and 2321 (331).				Introduction to concepts and organization practices associated with designing, implementing, and evaluating different types of employee training and development programs. Prereq: 2291 or 2292 (BusAdm 499.01); and 3200 (701), and AcctMIS 2200 (211), 2300 (212), and BusMgt 2320 (330), 2321 (331). Not open to students with credit for 703.		
4021	Institutions of the International Business Environment	U	3				
	Major international institutions and the role they play in international business and commerce. Prereq: 2000, 2292, AcctMIS 2200, BusMgt 2320, and 2321.						

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4323	Human Resource Practices and the Law	U	3	4998H	Honors Research	U	1 - 3
	Review of federal laws and administrative bodies regulating employee management in the workplace; emphasis on gaining practical skills for managing human resource issues legally. Prereq: 2291 or 2292 (BusAdm 499.01); and 3200 (701), and AcctMIS 2200 (211), 2300 (212), and BusMgt 2320 (330), 2321 (331). Not open to students with credit for 653.				Special topics research in management and human resources; research evaluated through papers, thesis, and/or special examinations.		
4324	Staffing: Concepts and Competencies for Acquiring Talent	U	3		Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.		
	Introduction to the scientific, legal, and administrative issues associated with the recruitment, hiring, and placement of individuals by organizations. Prereq: 2291 or 2292 (BusAdm 499.01); and 3200 (701), 4323 (653), and AcctMIS 2200 (211), 2300 (212), BusMgt 2320 (330), 2321 (331); or enrollment regional Business Management program. Not open to students with credit for 756.						
4325	Labor Relations and Collective Bargaining	U	3	5530	Topics in Social Entrepreneurship	U G	3
	Examination of basic aspects of labor relations and collective bargaining including labor history, labor law, union structure and governance, labor-management bargaining, and contract administration. Prereq: 2291 or 2292 (BusAdm 499.01); and 3200 (701), AcctMIS 2200 (211), 2300 (212), and BusMgt 2320 (330), 2321 (331). Not open to students with credit for 761.				Developing a business plan in social entrepreneurship. Prereq: Not open to students with credit for 691 or 694.52.		
4326	Compensation and Benefits Administration	U	3	7010	Advanced topics in Multinational Business	G	1½
	Provides a comprehensive framework and state-of-the art tools for designing compensation systems via assessment of organizational needs, internal and external equity, and compensation administration. Prereq: 2291 or 2292 (BusAdm 499.01); and 3200 (701), and AcctMIS 2200 (211), 2300 (212), and BusMgt 2320 (330), 2321 (331). Not open to students with credit for 762.				Examination of topics in international business, including the role of cultural and political systems, trade and FDI, and multinational enterprise. Prereq: MBA 6261 (820). Not open to students with credit for BusAdm 856.		
4328	Performance Management	U	3	7013	China and Its Global Business Implications	G	1½
	Measure and develop performance of individuals and groups to align performance with organization's strategic objectives. Prereq: 2291 or 2292 (BusAdm 499.01); and 3200 (701), and AcctMIS 2200 (211), 2300 (212), and BusMgt 2320 (330), 2321 (331).				Introduction to the historical, economic, cultural, social and geopolitical circumstances of China's rise, and its global business repercussions. Prereq: Not open to students with credit for 833.		
4330	Strategic Human Resource Management	U	3	7020	Global Labs I	G	1½
	Examination of a strategic perspective for managing employees that emphasizes the use of ethical practices and evaluates how practices fit together with organizational objectives. Prereq: 2291 or 2292 (BusAdm 499.01); and 3200 (701), and AcctMIS 2200 (211), 2300 (212), and BusMgt 2320 (330), 2321 (331). Not open to students with credit for 769.				Students prepare for client project with lectures on project work, including discussion of how to do business in foreign settings, business-focused cultural differences and other relevant topics to prepare students for projects. Discussion of relevant travel logistics. 1+ hours per week with faculty coach to prepare for project work, i.e. finalize project scope and in-country stakeholders. Prereq: Permission of instructor. Not open to students with credit for MBA 808. This course is graded S/U.		
4490	Strategic Management	U	3	7022	GAP: Global Applied Projects	G	3
	Introduction to the concepts and analytic tools in the field of strategic management to understand the competitive position of firms. Prereq: 2000 (BusADM 555), 2292 (BusADM 499.01), 3200 (701), and BusMGT 2320 (330), 2321 (331), 3230 (630), and BusFIN 3500 (510), 3220 (620), and BusML 3250 (650), 3380, and Sr standing in Business Administration major program. Not open to students with credit for BusAdm 799. Not open to students in UUSS, UEXP, or PREBSA-PR.				Students plan and execute real-world consulting engagement. Spring 2: students attend lectures on project management, cultural awareness, other relevant topics, and work part-time on self-managed teams guided by Coach/Faculty Advisor. In May, students travel abroad, work full-time to complete assignment and deliver final presentation to client. By application only. Mandatory info session. Prereq: Permission of instructor.		
4490H	Strategic Management	U	3	7191	Advanced Experience in Labor and Human Resources: Internship	G	3
	Introduction to the concepts and analytic tools in the field of strategic management to understand the competitive position of firms. Prereq: 2000 (BusADM 555), 2292 (BusADM 499.01), and 3200 (701); and BusMgt 2320 (330), 2321 (331), and 3230 (630); and BusFin 3500 (510), and 3220 (620); and BusML 3250 (650), and 3380; and Sr standing in Business Administration Honors program. Not open to students with credit for BusAdm 799. Not open to students in UUSS, UEXP, or PREBSA-PR.				Supervised practical experience relating to labor and human resources. Prereq: Permission of instructor. Not open to students with credit for 950.01.		
4520E	Leading High Performance Ventures	U	3	7193	Individual Studies	G	1 - 5
	Focuses on concepts, frameworks, skills, and tools that enable a start-up to become a sustainable enterprise that creates jobs. Option available for honors students to do extra work for Honors credit. Prereq: Not open to students with credit for 3520 or 590.				Individual study projects in selected interdisciplinary topics in business administration. Prereq: Enrollment in BusAdm or LHR PhD program, or permission of instructor. Repeatable to a maximum of 15 or hrs or 3 completions. This course is graded S/U.		
4550	Capstone in Entrepreneurship: Starting the Business	U	3	7194.61	Group Studies	G	1 - 5
	Students will start a business, including all aspects involved in a start-up. Second half of the course is a one-semester independent based on their start-up experience. This immersion course is required to earn an Entrepreneurship Distinction and Fellowship designation.				Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 894.61.		
4570	Establishing Import-Export Firms	U	3	7194.62	Group Studies	G	1 - 5
	To teach students how to get an export business started, how to compete in a global market and how to expand the business globally. Prereq: 2000, and permission of instructor.				Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 894.62.		
4627	Leveraging Athletics for Business and Personal Success	U	3	7194.63	Group Studies	G	1 - 5
	Study of complexities confronting professional athletes. Despite perceived glamour surrounding professional sports, many former stars become directionless and penniless when their playing careers end. Classroom experience through readings and assignments will explore how this can occur and attempt to understand and offer activities and behaviors that lead to life success.				Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 894.63.		
4998	Undergraduate Research in Management and Human Resources	U	1 - 3	7194.64	Group Studies	G	1 - 5
	Undergraduate Research in Management and Human Resources for non-honors students. Prereq: BusAdm 2291 (499), and Jr standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.				Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 894.64.		
				7220	Personal Leadership Effectiveness	G	3
					The ability to successfully execute any project or assignment; attaining mastery in identifying, resolving problems, gaining mastery in causing results in any condition/circumstance. Prereq: MBA 6200 or 6202 (860). Not open to students with credit for 834.		
				7221	Leadership Values and Decision Making	G	1½
					This course explores the multiple ways that personal character and integrity, and organizational culture, affect leadership behavior, from both ethical and psychological perspectives. The course will employ readings, cases, speakers and self-assessment tools, and analysis of both historical and contemporary examples. Prereq: Enrollment in MBA, WPMBA, MHRM, or MAcc program, or permission of instructor. Not open to students with credit for 840.		
				7222	Advanced Topics in Leadership: Building Your Leadership Legacy	G	1½
					Development of a personal leadership legacy designed to achieve career goals and improve leadership skills. Prereq: Enrollment in MBA, WPMBA, MHRM, or MAcc program, or permission of instructor. Not open to students with credit for 842.		

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7223 Advanced Topics in Leadership Effectiveness: Strategy Implementation	G	1½	7237 The Science of Leading	G	3
Study strategy needed for organizational alignment; implementation, execution of strategic priorities; and organizational culture, leadership, structure, communications, compensation, metrics relative to effective execution of strategy.			This course will take a scientific approach to leadership. The Matrix Leadership Model that will guide the course articulates four stages of leader development: Build-Decide-Perform-Evaluate and divides leader's activities into Leader (primarily at the leader level) and Follower (primarily at the follower or team level). At the center are two enabling mechanisms: Analyzing and Inspiring.		
Prereq: Enrollment in MBA, WPMBA, MLHR or MAcc program or permission of instructor. Not open to students with credit for 847.					
7224 Organizational Turnarounds	G	1½	7238 Leadership Effectiveness Through Applied Projects and Team Coaching	G	3
Case studies of organizational turnarounds.			Hone, develop, and apply leadership competencies through a real-world consulting project while receiving on-going individual and team coaching.		
Prereq: Enrollment in MBA, WPMBA, MHRM, or MAcc program; or permission of instructor. Not open to students with credit for 843.			Prereq: 7321, and enrollment in MHRM program; or MBA 6281.01, and enrollment in MBA program.		
7225 Crisis Leadership	G	1½	7240 Managerial Negotiations	G	1½
Studies of leaders and organizations facing crises to understand how to be successful in handling such challenges.			Exploration of the major concepts and theories of the psychology of bargaining and negotiation, and the dynamics of interpersonal and intergroup conflicts and their resolution.		
Prereq: Enrollment in MBA, WPMBA, MLHR, or MAcc program; or permission of instructor. Not open to students with credit for 843.			Prereq: Enrollment in MBA, WPMBA, MHRM, or MAcc program; or permission of instructor. Not open to students with credit for 802.		
7228 Introduction to Organizational Business Coaching	G	1½	7244 Negotiations	G	3
For students interested in building their own organizational and leadership coaching skills; class will explore the various roots and perspectives of modern coaching while building the skills of coaching which center upon but are not limited to deep listening, coaching presence, business acumen, cultural dynamics and powerful questioning.			Highlight the components of an effective negotiation and teach students to analyze their own behavior in negotiations. Largely experiential, course provides students with an opportunity to develop their skills by participating in negotiations and integrating their experiences with the principles presented in the assigned readings and course discussions.		
Prereq: Enrollment in MBA, WPMBA, MHRM, or permission of instructor.			Prereq: Enrollment in Fisher College of Business graduate programs. Not open to students with credit for 7240 or 7241 (802).		
7229 Advanced Organizational Business Coaching	G	1½	7260 Organizational Behavior for Specialized Masters	G	1½
This course follows Introduction to Organizational Business Coaching and intends to broaden the learners lens beyond the one-on-one coaching or coaching as a leadership skillset and venture into how coaching cultures evolve, what the coaching industry holds, and eventually will build on more complex skills in several modules on Systemic Organizational Team Coaching.			Introduction to topics in organizational behavior with a focus on applications for MBLE students.		
Prereq: Enrollment in MBA, WPMBA, or MHRM. Prereq or concur: 7228 or 7234, or permission of instructor.			Prereq: Enrollment in MBLE, Specialized Masters in Logistics, or Specialized Masters in Marketing, or permission of instructor.		
7230 Developing High Performance Teams	G	1½	7261 Leadership for Specialized Masters	G	1½
Groups and teams are becoming a way of life in organizations. This course will teach the theory and processes of group and team behavior so that you can successfully manage groups and work effectively in a variety of group settings. It is intended for students who seek greater understanding of teams and wish to increase their competence in managing and working effectively in these contexts.			Introduction to topics in leadership with a focus on applications for specialized business masters students.		
Prereq: Not open to students with credit for 828.			Prereq: Enrollment in MBLE, Specialized Masters in Logistics, or Specialized Masters in Marketing, or permission of instructor.		
7231 Building Professional Services	G	1½	7263 Leadership for SMB Finance Students	G	1½
Innovative ideas for building professional service organizations; best practices; strategies; market trends/service capabilities at product-centric companies; cultural issues facing service businesses within product companies.			An overview of factors that influence individual work performance and techniques; analytical frameworks for determining effectiveness of given techniques in specific circumstances.		
Prereq: Not open to students with credit for 824.			Prereq: Enrollment in SMB Finance program, or permission of instructor. Not open to students with credit for MBA 860.		
7231.02 Building Professional Services	G	1½	7301 Conceptual and Historical Foundations of Labor and Human Resource Management	G	1½
Innovative ideas for building professional service organizations; best practices; strategies; market trends/service capabilities at product-centric companies; cultural issues facing service businesses within product companies. Cross Functional Elective.			The history of Human Resources and its role in organizations & society.		
Concur: BusML 7205.02. Not open to students with credit for 7231, 7231.01 or 824.			Prereq: Not open to students with credit for 851 or 852.		
7233 Leadership and Implementation of Change	G	3	7302 Markets, Organizations, and HRM	G	1½
Expand understanding of what is involved in the successful implementation of change. Discuss key elements in leading and managing change. Focus on individual's ability to accomplish change regardless of position or authority.			The employment relationship from an economic perspective; economic analysis applied to important managerial decisions involving the coordination and motivation of organizational members.		
Prereq: Not open to students with credit for 7232 (809) or 7220 (834).			Prereq: Not open to students with credit for 854.		
7234 Developing Leaders and Coaches Through Practical Exercises	G	3	7303 HR Analytics	G	1½
The course starts with basic leadership and coaching principles and ends with complex practical exercises challenging students to become better leaders. The course progresses, allowing the student to build upon the lessons learned through the course. The program incorporates planning, preparation, practical exercises, case studies, coaching and assessment to train and develop future leaders.			Examination of the concepts, methods, and tools needed to conduct and evaluate research for effective human resources management decision making.		
Prereq: Not open to students with credit for 7228 and 7229.			Prereq: Enrollment in the MHRM program. Not open to students with credit for 811.		
7235 Developing Leaders through Practical Exercises	G	1½	7304 Talent Management	G	1½
This course is taught in a layered effect starting with basic leadership principles and ends with complex practical exercises challenging students to become better leaders. The leader development program incorporates leadership principles, practical exercises, case studies, and assessment to train and develop future leaders.			Overview of concepts, practices, issues and learnings related to strategically managing talent to develop organizational capability and meet strategic business goals and objectives.		
Prereq: Not open to students with credit for 7228, 7229, and 7234.			Prereq: Not open to students with credit for 846.		
7236 Crucial Conversations	G	3	7305 Contemporary Employment Practices and the Law	G	1½
Building skills for handling tough conversations; practical ways to manage disagreement and disappointment in a constructive manner. Provides method for straight talk that moves people and positions forward. Principles further build a capacity to hold people accountable while increasing commitment & performance. Drives impact and competitive advantage at the leader, team and organizational level.			Title VII of the 1964 Civil Rights Act, The Equal Pay Act, the Age Discrimination in Employment Act, the Civil Rights Act of 1967, and federal affirmative action program.		
Prereq: Not open to students with credit for 849.			Prereq: Enrollment in MHRM program. Not open to students with credit for 868.		
7306 Understanding Teams & Leadership for Human Resource Managers	G	1½	7307 Performance Management	G	1½
A focus on the manager's role in dealing with individuals and work teams. Other topics include: work design, communications, leadership and motivation.			Measure & develop performance of individuals & groups & align performance with organization's strategic objectives; methods, theories, research findings, issues regarding employee performance in organizations.		
Prereq: Enrollment in MHRM or MAcc program. Not open to students with credit for 806.			Prereq: Not open to students with credit for 849.		
7308 Organizational Development and Change	G	1½	7309		
A practical and pragmatic investigation into the conduct of change in organizations in order to improve organization performance.					
Prereq: Not open to students with credit for 807.					

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7309 Strategic Management of Human Assets	G	1½	7420 Mergers, Acquisitions and Corporate Development	G	1½
Theory and research regarding teamwork and leadership, to enhance understanding/build skills in team leadership, membership, change and followership.			Analyzes mechanisms underlying the creation and destruction of value in M&A by studying issues such as: drivers of M&A, value creation strategies, valuation and integration.		
Prereq: Not open to students with credit for 869.			Prereq: Enrollment in MBA, MHRM, MAcc program, or permission of instructor. Not open to students with credit for 808.		
7310 Labor Relations	G	1½	7421 Intopia: Applied Competitive Strategy	G	3
Examination of the basic elements of labor-management relations, including the process and content of collective bargaining.			Focuses on international operations business simulation INTOPIA and student's companies operations in it. Each company must be well prepared to make and execute decisions.		
Prereq: Not open to students with credit for 861or 864.			Prereq: Enrollment in MBA or WPMBA program, or permission of instructor. Not open to students with credit for 836.		
7311 Staffing Organizations	G	3	7433 Advanced Strategy Implementation	G	3
Introduction to the scientific, legal, and administrative issues associated with the recruitment, hiring, and placement of individuals by organizations.			The aim of this course is to help students gain an organization design perspective on challenges in strategy formulation and implementation, especially in multi-business firms.		
Prereq: Not open to students with credit for 855.			Prereq: Enrollment in MBA, WPMBA, MHRM, or MAcc program, or permission of instructor.		
7313 Total Rewards/Compensation	G	3	7461 Technology and Innovation Strategy	G	1½
Introduction to pay systems; including job evaluation, pay surveys, performance appraisals, and benefits.			How technology strategy may lead to creation/persistence of competitive advantage. In contrast to core strategy course, provides series of strategic frameworks for managing high-tech businesses.		
Prereq: Not open to students with credit for 865.			Prereq: Enrollment in MBA, WPMBA, MLHR, MHRM, or MAcc program; or permission of instructor. Not open to students with credit for 848.		
7314 Designing Learning Systems	G	1½	7522 Entrepreneurship and the Business Plan	G	3
Course will cover the learning function in organizations broadly defined to include training, development, knowledge management and career management. The concepts, methods, and issues discussed in the course are applicable to all types of organizations and jobs.			Experiential opportunities in entrepreneurship, entrepreneurial concepts, and financing and executing the business plan.		
7320 Fundamentals of Business Excellence I	G	3	Prereq: Not open to students with credit for 7520 or 7521 (825).		
Organizational, functional, and technical knowledge of business functions & issues for future HR professionals.			7525 Global Innovation and Entrepreneurial Leadership	G	1½
Prereq: Enrollment in MLHR program. Not open to students with credit for 863.			Field study projects to introduce venture capital, private equity, technology commercialization and new venture strategy.		
7321 Fundamentals of Business Excellence II	G	3	7530 Technology Entrepreneurship and Commercialization	G	3
Focus on developing specialized knowledge of functional areas and process in modern organizations.			Proven techniques and proprietary protocols for estimating the commercial potential of new technologies, qualifying market opportunities, and designing competitive entry strategies.		
Prereq: 7320 (863), or permission of instructor.			Prereq: Not open to students with credit for 890.		
7322 Fundamentals of Business Excellence III	G	3	7531 Technology Venture Lab	G	3
Presentation of the strategic and tactical issues related to effective implementation and practice in HR.			Executing the "live" launch of new ventures utilizing lean startup principles, the business model canvas and the customer discovery process for creating scalable, investment-worthy ventures.		
Prereq or concur: 7321, or permission of instructor.			Prereq: Permission of instructor. Not open to students with credit for 891. Repeatable to a maximum of 6 cr hrs.		
7325 International Human Resource Management	G	1½	7533 Managing a Not-for-Profit Business	G	1½
Course is an overview of managing human resources across borders, with emphasis on the strategies and practices of multinational corporations, and examines the opportunities & challenges of operating in a global economy, how cross-national differences shape approaches to business and human resource management, and analysis of future trends and challenges in international human resource management.			General introduction and business analysis of not-for-profit businesses and business solutions to issues facing not-for-profit leaders. Focus will be the fundraising model implemented at the university. Topics will include administration, finance, resource development, donor relations, capital campaigns, event planning and volunteer management.		
Prereq: Enrollment in MHRM program.			7605 The Business of College Sports	G	3
7335 Managing Diversity	G	1½	Business analyses of intercollegiate athletics, including an in depth look at OSU athletic program. College sports administration, educational, and business missions.		
Best practices and innovative ideas in managing diversity, the impact of diversity within and outside the organization, and how diversity creates value for an organization.			Prereq: Enrollment in the MBA, WPMBA, MLHR, MHRM or MAcc program; or permission of instructor. Not open to students with credit for 870 or KnSISM 6842. Cross-listed in KnSISM 6842.		
Prereq: Grad standing.			7610 Business Ethics	G	1½
7345 HR Bargaining	G	1½	Developing ethical perspectives in the business environment for use in managerial decision-making.		
Human Resource Managers need both analytical skills to discover optimal solutions to problems and good bargaining skills to effectively implement those solutions. Through this course, students will learn the major concepts and theories of bargaining in human resource management and develop expertise in the practice of bargaining in a variety of human resource management settings.			Prereq: Not open to students with credit for 859.		
7412 Competitive Analysis	G	1½	7611 International Corporate Compliance and Ethics Governance	G	1½
Tools to identify, parse, and analyze the economic and market data necessary to complete a comprehensive strategic analysis of business competition. Application of major steps in industry analysis, competitive positioning, capability analysis, competitor analysis, and some private equity valuation.			Managers face increasing compliance standards for multinational enterprises that governments view as reducing corruption and promoting ethical business practices. Anti-corruption prohibitions, codes of conduct, and model ethics guidelines are no longer limited to business conducted solely with governments, but also apply to NGOs.		
Prereq: Enrollment in MBA or WPMBA program, or permission of instructor. Not open to students with credit for 838.			Prereq: Grad standing in the Fisher College of Business.		
7413 Advanced Strategic Analysis	G	1½	7612 Ethics and Leadership Integrity in a Global Economy	G	3
Course objective is to analyze a firm's competitive situation and related strategies to create competitive advantage in a more realistic setting than is possible using the traditional case method. Theoretical frameworks learned in the core strategy course among others are applied to firms using real-time data from multiple public sources in order to create well-grounded insights about a firm.			This course will explore fundamental concepts and false assumptions in ethical issues facing corporate actors and business decision-making, explore the factors, steps, and pressures that accompany making ethical business decisions and that reflect leadership integrity, and consider ethical dilemmas faced by enterprises that arise internationally under these measures and best ethics practices.		
Prereq: 7412, or MBA 6291, or 6293; and enrollment in MBA or WPMBA; or permission of instructor. Not open to students with credit for 838.			Prereq: Not open to students with credit for 7610 or 7611.		
7415 Corporate Diversification	G	1½	7629 Prof Business Communication Skills	G	3
A study of corporate strategies, actions firms take to gain competitive advantages: strategies studied will include corporate diversification and mergers and acquisitions.			The purpose of this course is to create and build a baseline of communication skills used in business and industry. In addition to foundation skills, the course focuses on key elements of style and "polishing up techniques" in the presentations arena.		
Prereq: Enrollment in MBA or WPMBA, or permission of instructor. Not open to students with credit for 839.			Prereq: MBA 6281.01. Not open to students with credit for 7268.		
7640 Strategies for Business Sustainability: Principles and Concepts	G	1½	7640 Strategies for Business Sustainability: Principles and Concepts	G	1½
Examination of the principles and concepts involved in developing sustainable businesses.			Prereq: Not open to students with credit for 841.		

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7660	Innovation Practice	G	1½	8302.01	Advanced Seminar: Selected issues in Human Resources Management I	G	1½
	Theory and application of innovation practices as well as a framework for commercial application.				Advanced discussions of theory and research on human resource management.		
	Prereq: Not open to students with credit for 894.60.				Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor.		
7689	Washington Campus	G	3		Repeatable to a maximum of 6 cr hrs.		
	Week-long program in Washington DC on public policy. Presentations by policy-makers, trips to agencies, and participation in congressional simulation.			8302.02	Advanced Seminar: Selected issues in Human Resources Management II	G	1½
	Prereq: Permission of instructor. Not open to students with credit for 883. Repeatable to a maximum of 6 cr hrs.				Additional advanced discussions of theory and research on human resource management.		
7703	Leadership, Talent Management, and Organizational Behavior in Health Sciences	G	2		Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor.		
	Provides an overview of factors that influence individual and team performance and techniques to improve it with an emphasis on the businesses in the life sciences and healthcare for managerial decision making.				Repeatable to a maximum of 3 cr hrs.		
	Prereq: Enrollment in the Graduate Business Minor in Health Sciences.			8401	Management Seminar: Seminar in Strategic Management	G	1½
7714	Strategy and Competitive Analysis for Health Sciences	G	1½		An examination of the concepts, models, theories, and research underlying contemporary thinking on strategic management.		
	Course focuses on creation of long term value for organizations in the health sciences industry and provides practical tools for strategic analysis of industries and individual practices for competitive strategies.				Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor.		
	Prereq: 7264 or 7703, BusMgt 7256 or 7701, and BusFin 7400 or 7702; and enrollment in the Graduate Business Minor in Health Sciences.				Repeatable to a maximum of 6 cr hrs.		
7800	Advanced Topics in Management and Human Resources for EMBA	G	1½ - 3	8402.01	Advanced Seminar: Selected issues in Strategic Management I	G	1½
	Advanced Topics in Management and HR for students in the Executive MBA Program.				Advanced discussions of current theoretical developments and research in the business policy and strategic management field.		
	Prereq: Enrollment in EMBA program. Repeatable to a maximum of 15 cr hrs or 7 completions.				Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor.		
7999	Research in Management and Human Resources: Thesis	G	3		Repeatable to a maximum of 6 cr hrs.		
	Research for thesis purposes only.			8402.02	Advanced Seminar: Selected Issues in Strategic Management II	G	1½
	Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 4 completions. This course is progress graded (S/U).				Additional advanced discussions of current theoretical developments and research in the business policy and strategic management field.		
8001	Seminar: Seminar in International Business	G	1½		Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor.		
	A critical study of current theories and research methodologies and findings in the field in international business.				Repeatable to a maximum of 3 cr hrs.		
	Prereq: Enrollment in the Fisher College of Business Ph.D program, or permission of instructor. Not open to students with credit for 925.01.			8501	Management Seminar: Seminar in Entrepreneurship	G	1½
8002.01	Advanced Seminar: Selected Issues in International Business I	G	1½		Discussions of theory and research in Entrepreneurship.		
	Current and key issues in international management analyzed from an interdisciplinary perspective.				Prereq: Enrollment in Fisher College of Business PhD program or permission of instructor.		
	Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor. Repeatable to a maximum of 3 cr hrs.				Repeatable to a maximum of 3 cr hrs.		
8002.02	Advanced Seminar: Selected Issues in International Business II	G	1½	8502.01	Advanced Seminar: Selected Issues in Entrepreneurship I	G	1½
	Additional current and key issues in international management analyzed from an interdisciplinary perspective.				Advanced discussions of theory and research in Entrepreneurship.		
	Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.				Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor.		
					Repeatable to a maximum of 3 cr hrs.		
8201	Management Seminar: Seminar in Organizational Behavior	G	1½	8502.02	Advanced Seminar: Selected Issues in Entrepreneurship II	G	1½
	Discussions of theory and research on organizational behavior.				Additional advanced discussions of theory and research in Entrepreneurship.		
	Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.				Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor.		
8202.01	Advanced Seminar: Selected Issues in Organizational Behavior I	G	1½		Repeatable to a maximum of 3 cr hrs.		
	Advanced discussions of theory and research on organizational behavior.			8601	Management Seminar: Micro Foundations of Management	G	1½
	Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.				An examination of the micro foundations, theories, and models underlying the field of management.		
8202.02	Advanced Seminar: Selected Issues in Organizational Behavior II	G	1½		Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor.		
	Additional advanced discussions of theory and research on organizational behavior.				Repeatable to a maximum of 3 cr hrs.		
	Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.			8602	Management Seminar: Macro Foundations of Management	G	1½
					An examination of the macro foundations, theories, and models underlying the field of management.		
8203	Seminar: Seminar in Organizational Theory	G	1½		Prereq: Enrollment in Fisher College of Business PhD program or permission of instructor.		
	Theory, research on environmental and structural characteristics of formal organizations and their correlates with particular emphasis on management of the organization in dynamic, global environment.				Repeatable to a maximum of 3 cr hrs.		
	Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor. Not open to students with credit for 915.			8610	Preparing Manuscripts for Management Journals	G	1½
					Students will work on skills needed to translate research into publishable papers.		
8301	Management Seminar: Seminar in Human Resource Management	G	1½		Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor.		
	Discussions of theory and research that serve as a foundation for the fields of human resources.				Repeatable to a maximum of 4.5 cr hrs.		
	Prereq: Enrollment in the Fisher College of Business Ph.D program, or permission of instructor. Repeatable to a maximum of 3 cr hrs.			8611	Professional Development	G	1½
					This is a PhD seminar on Professional Development designed to be taken over the regular 14-week sessions and made up of two parts, part one to be offered Autumn and part two during Spring semester; primarily for MHR PhD candidates.		
					Prereq: Enrollment in the Fisher College of Business Ph.D program, or permission of instructor.		
8780	Introduction to Micro Research Methods in Management	G	1½				
	Introduction to research design and methodology as it relates to the study of micro organizational phenomena.			8781	Introduction to Macro Research Methods in Management	G	1½
	Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor.				Introduction to research design and methodology as it relates to the study of macro organizational phenomena.		
	Repeatable to a maximum of 3 cr hrs.				Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor.		
					Repeatable to a maximum of 3 cr hrs.		

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8999	Research in Management and Human Resources: Dissertation	G	1 - 12	4232	Operations Planning and Control	U	3
Research for dissertation purposes only. Repeatable. This course is graded S/U.							
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2320	Decision Sciences: Statistical Techniques	U	3	4233	Operations Management Analytics	U	3
Examination of the use of statistical techniques in managerial decision-making processes; statistical inference, simple and multiple regression, time series.				A study of data and modeling tools used in operations management. Emphasis is spreadsheet and database applications.			
Prereq: Math 1131 (132), or 1151 (152); and Stat 1430 (133); and CSE 1113, or 2111 (200); and Econ 2001.01 (200). Prereq or Concur: Econ 2002.01 (201). Not open to students with credit for 330. This course is available for EM credit.				Prereq: 2320 (330), 2321 (331), 3230 (630), and AcctMIS 2200 (211), 2300 (212); and BusMHR 2291 or 2292 (BusADM 499.01). Not open to students with credit for 732.			
2321	Business Analytics	U	1½	4234	Service Operations	U	3
Examination of the use of business analytic models used in managerial decision making processes. Emphasis on formulation and interpretation of models; supported by spreadsheet based software.				Surveys a broad framework of key operations management challenges, while also focusing on a broad variety of different services via in-depth case studies.			
Prereq: Math 1131 (132), or 1151 (152), or equivalent; and CSE 1113, or 2111 (200); and Econ 2001.01 (200), or equivalent; and Econ 2002.01 (201), or equivalent. Not open to students with credit for 331.				Prereq: 2320 (330), 2321 (331), 3230 (630), and AcctMIS 2200 (211), 2300 (212); and BusMHR 2291 or 2292 (BusADM 499.01). Not open to students with credit for 733.			
3130	Foundations of Operations Management	U	3	4237	International Operations Management	U	3
Introduction to operations & supply chain management to improve organizations; specifically analyzing, controlling & improving resources & processes to increase productivity, generate value-added output & meet business strategic & tactical goals.				Current influences, practices and standards for structural and infrastructural decision making across national boundaries. Explores complexity of managing geographically dispersed operations with relationships between multiple entities.			
Prereq: Math 1130 (130) or 1148 (148), or equiv, and Econ 2001.01 (200), or equiv. Not open to students with credit for 3230 (630) or 430. Not open to students enrolled in the BSBA degree program.				Prereq: 2320 (330), 2321 (331), 3230 (630), and AcctMIS 2200 (211), 2300 (212); and BusMHR 2291 or 2292 (BusADM 499.01). Not open to students with credit for 737.			
3194	Group Studies	U	1 - 6	4239	Managing Process Improvement	U	3
Group studies projects.				Describes the basics of establishing and managing a Lean process in service, office and manufacturing operations. We will look at how we can add value in delivery of goods or services to the customer.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.				Prereq: 2320 (330), 2321 (331), 3230 (630), and AcctMIS 2200 (211), 2300 (212), and BusMHR 2291 or 2292 (BusADM 499.01). Not open to students with credit for 739.			
3230	Introduction to Operations Management: Improving Competitiveness in Organizations	U	3	4240	Management of Technology	U	3
Introduction to operations and supply chain management to improve manufacturing and service organizations; analyzing, controlling and improving resources and processes to increase productivity, generate value-added output and meet business goals.				Intended for a broad range of business careers in which management of technological operations is critical for an organization's competitive advantage. Topics include methods to design, measure and improve technologies.			
Prereq: Econ 2001.01 (200), 2002.01 (201); and Stat 1430 (133) or equivalent. Not open to students with credit for 3130 (430) or 630, or to students enrolled in UUSS, UExp or PreBSBA-PR.				Prereq: 2320 (330), 2321 (331), 3230 (630), and AcctMIS 2200 (211), 2300 (212); and BusMHR 2291 or 2292 (BusADM 499.01).			
3230H	Introduction to Operations Management: Improving Competitiveness in Organizations	U	3	4242	Business Sports Analytics	U	3
Introduction to operations and supply chain management to improve manufacturing and service organizations; analyzing, controlling and improving resources and processes to increase productivity, generate value-added output and meet business goals.				Analytical techniques and quantitative methods are on the rise in many areas of industry, and, of late, have made their foray into the sports realm. Skills such as critical thinking, mathematical modeling, statistical analysis, predictive analytics and optimization are crucial in the data-centric realm. The class seeks to develop and refine these skills in the business application area of sports.			
Prereq: Honors standing in BusAdm Honors Cohort program. Not open to students with credit for 630H.				Prereq: Stat 3202, or permission of instructor.			
3331	Business Analytics: Data Management and Descriptive Analysis	U	3	4250	Six Sigma Principles	U	3
Understand how organizations can successfully collect, organize, manipulate, use and present data.				Designed to familiarize students with the Six Sigma process improvement methodology and to provide them an opportunity to practice using Six Sigma Black Belt tools.			
Prereq: Econ 2001.01 and 2002.01 or equiv; and Math 1152 or equiv; and CSE 2111 or equiv.				Prereq: 2320 (330), 2321 (331), 3230 (630), and AcctMIS 2200 (211), 2300 (212); and BusMHR 2291 or 2292 (BusADM 499.01). Not open to students with credit for 710.			
3332	Business Analytics: Application of Predictive Analytics to Business Data	U	3	4251	Six Sigma Projects	U	3
Build and test predictive models that move from data to parameter estimation.				Six Sigma Projects class.			
Prereq: Econ 2001.01 and 2002.01 or equiv, Stat 3202, and CSE 2111 or equiv.				Prereq: 4250 (710). Not open to students with credit for 711.			
3333	Business Analytics: Applied Prescriptive Analytics	U	3	4261	Purchasing and Supply Chain Management	U	3
Moving from estimating model parameters, to making data-informed business decisions.				Designed to explore the industrial-institutional purchasing cycle for operating supplies, raw materials, components and capital equipment within the context of the Integrated Supply Chain Management Organizational Concept.			
Prereq: 3331. Prereq or concr: 3332.				Prereq: 2320 (330), 2321 (331), 3230 (630), and AcctMIS 2200 (211), 2300 (212); and BusMHR 2291 or 2292 (BusADM 499.01). Not open to students with credit for 735.			
4193	Individual Studies	U	1 - 6	4262	Purchasing Strategy	U	3
Individual study projects in selected areas in Management Sciences.				Strategic purchasing is a methodology used in many businesses to realize the greatest amount of benefit to the company while still effectively managing the costs associated with the acquisition of raw materials and operational components.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is progress graded (S/U).				Prereq: 2320 (330), 2321 (331), 3230 (630), AcctMIS 2200 (211), 2300 (212) and BusMHR 2291 or 2292 (BusADM 499.01). Not open to students with credit for 736.			
4194.31	Group Studies	U	1 - 6	4263	Strategic Global Sourcing	U	3
Group studies projects.				This course focuses on the strategic design and management of the global supply base. The course focuses on identifying and understanding risks and uncertainties related to make-buy, location, and on-going supplier management. Beyond that, it focuses on cross-functional decision-making under risk and uncertainty in this context.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.				Prereq: 2320 (330), 2321 (331), 3230 (630), AcctMIS 2200 (211), and 2300 (212); and BusMHR 2291 or 2292, or BusADM 499.01.			
4194.32	Group Studies	U	1 - 6	4998	Undergraduate Research in Management Sciences	U	1 - 3
Group studies projects.				Undergraduate Research in Management Sciences for non-honors students.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.				Prereq: BusAdm 2291 (499), and Jr standing, and permission of instructor. This course is progress graded.			
4194.33	Group Studies	U	1 - 6				
Group studies projects.							
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.							

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6220 Data Analysis for Managers	G	3			
Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making.					
Prereq: Enrollment in MHRM or SMB-Marketing Program. Not open to students with credit for 870.					
6221 Data Analysis for Financial Management Part I	G	1½			
Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making. Part I of 2 course sequence.					
Prereq: Enrollment in MBOE or SMB-Finance Program Course. Not open to students with credit for 870. This course is progress graded.					
6222 Data Analysis for Financial Management Part II	G	1½			
Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making. Part 2 of 2 course sequence.					
Prereq: Enrollment in MBOE or SMB-Finance Program Course. Concur: 6221. Not open to students with credit for 870.					
6400 Statistics and Data Analysis for Managers	G	3			
Students will learn how to work with data, formulate questions, and most importantly, learn comprehensive problem solving techniques to extract and explain pertinent information from data. The course will track the problem solving process from problem formulation to data acquisition/cleaning to data analysis and conclusion to communication of the results.					
Prereq: Enrollment in the SMB-A program, or permission of instructor.					
7193 Individual Studies	G	½ - 6			
Individual study projects in selected areas in Management Sciences.					
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is progress graded (S/U).					
7194.31 Group Studies	G	1 - 6			
Group studies projects.					
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.					
7194.32 Group Studies	G	1 - 6			
Group studies projects.					
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.					
7194.33 Group Studies	G	1 - 6			
Group studies projects.					
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.					
7202 The Business of Healthcare	G	1½			
Focuses on the evolving and competitive issues facing the industry today, giving students the tools to adapt and excel under demanding circumstances. Students work to become effective leaders by gaining in-depth knowledge of business concepts, analytical skills and a broad understanding of health-care industry dynamics.					
Prereq: Enrollment in MBA or WPMBA program. Not open to students with credit for 814.					
7203 Service and Healthcare Business Operations	G	1½			
Examines how techniques including lean, six sigma and value stream mapping are increasingly being utilized in service businesses, as well as to improve both flow (Cost) and patient safety outcomes in medicine.					
Prereq: Enrollment in MBA or WPMBA program.					
7221 Introduction to Decision Making	G	1½			
With the help of industry guest speakers, this course demonstrates how decision modeling improves the efficiency of a wide range of business applications and surveys deterministic modeling approaches. These include linear and integer optimization, heuristic problem solving, and discrete choices using the analytic hierarchy process.					
Prereq: MBA 6271. Not open to students with credit for 871.					
7222 Simulation, Risk Analysis, and Decision Making	G	1½			
Focuses on analyzing management decisions that involve uncertainty, risk and complexity. Students will explore the Monte Carlo simulation, forecasting and decision tree analytical methods with a strong emphasis on their proper use and application.					
Prereq: MBA 6271. Not open to students with credit for 855.					
7223 Project Management	G	3			
Introduces challenges senior managers face in companies that run multiple projects with a focus on overall project portfolio management, project selection, resource allocation between projects & organizational team design. Students identify their strengths & weaknesses in projects with a creative problem-solving exercise & experience real-life applications with visits from local project managers.					
Prereq: Enrollment in MBA, WPMBA, MBLE or SMF program. Not open to students with credit for 820.					
7231 Manufacturing Planning and Control for Supply Chain Management	G	1½			
Emphasizes the overall structure of the planning and control function in managing operations, a critical link for the planning activities in many areas of a business. Topics covered include forecasting, sales and operations planning (S&OP), master production scheduling (MPS), material requirements planning (MRP), capacity management, inventory management, and just-in-time (JIT) techniques.					
Prereq: Enrollment in MBA or WPMBA program. Not open to students with credit for 835.					
7232 Supply Chain Analytics: Matching Supply with Demand	G	1½			
Explores how firms can better organize their operations so they more effectively align supply with demand for products and services. Students will learn how to assess supply flexibility and manage demand for a fixed supply and explore topics including flexible capacity management, short-life-cycle forecasting, quick response, revenue management, buy-back contracts and revenue-sharing contracts.					
Prereq: Enrollment in MBA or WPMBA. Not open to students with credit for 832.					
7232.01 Supply Chain Analytics: Matching Supply with Demand	G	1½			
Explores how firms can better organize their operations so they more effectively align supply with demand for products and services. Students will learn how to assess supply flexibility and manage demand for a fixed supply and explore topics including flexible capacity management, short-life-cycle forecasting, quick response, revenue management, buy-back contracts and revenue-sharing contracts.					
Prereq: MBA (6231 and 6232) or 6233, and enrollment in MBA or WPMBA. Not open to students with credit for 832.					
7232.02 Supply Chain Analytics: Matching Supply with Demand	G	1½			
Explores how firms can better organize their operations so they more effectively align supply with demand for products and services. Students will learn how to assess supply flexibility and manage demand for a fixed supply and explore topics including flexible capacity management, short-life-cycle forecasting, quick response, revenue management, buy-back contracts and revenue-sharing contracts.					
Prereq: MBA (6231 and 6232) or 6233, and enrollment in MBA or WPMBA. Not open to students with credit for 832.					
7233 Strategic Global Sourcing	G	3			
Focuses on major decisions related to global sourcing, starting with ownership (make-buy) and location (offshore-onshore). Among other topics, students explore fundamental trade-offs in sourcing organization, such as centralizing or decentralizing.					
Prereq: MBA 6231 and 6232, and enrollment in MBA, WPMBA, or MBLE program. Not open to students with credit for 837.					
7235 Healthcare Transformation: Front Line Strategies and Stories	G	1½			
Course will cover the forces facing healthcare today & the challenges that must be embraced to continuously improve patient-centric care. The elective will involve not only updates on the national front but also introduce key healthcare executives and clinicians who are currently transforming healthcare relative to payment reform, physician engagement, and performance management and episodic care.					
Prereq: Enrollment in MBA or WPMBA program.					
7241 Lean Enterprise Leadership	G	1½			
Introduces the skills and discipline needed to lead and learn in a continuous improvement environment in a hands-on, participative manner. Students who complete the class can immediately contribute to an organization's efforts in continuous improvement, whose principles are used by many leading organizations in all sectors to outpace competitors year after year.					
Prereq: Enrollment in MBA, WPMBA, or MBLE program. Not open to students with credit for 840.					
7242 Six Sigma Principles	G	3			
Familiarizes students with the Six Sigma process improvement methodology by practicing with its tools. Supplemented with an online textbook from Moresteam.com, project simulation that runs throughout the semester and Minitab statistical software.					
Prereq: MBA 6271 (870), or enrollment in MBLE program. Not open to students with credit for 810.					
7244 Six Sigma Projects	G	3			
Teams of students apply the Six Sigma body of knowledge through a real-world project at an area company. Projects will follow the DMAIC body of knowledge as students and coaches work through its tollgates to achieve process improvement.					
Prereq: 7242 or 7243. Not open to students with credit for 811.					
7251 Managing Product and Process Innovation	G	1½			
An essential element of any business model is the design and the delivery of services and goods. Many organizations are able to perform this function effectively in the short-term. But only a few organizations demonstrate sustained performance over an extended period of time. We refer to these organizations as pioneers in business model innovation.					
Prereq: Enrollment in MBA, WPMBA, or MAcc program. Not open to students with credit for 834.					
7253 Sustainable Operations	G	1½			
Reviews several sustainable operations strategy models and examines different ways of adopting eco-efficiency principles into business operations through waste reduction and design for recovery. Highlights factors that promote these efforts, such as environmental laws and product returns.					
Prereq: Enrollment in MBA or WPMBA program.					

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7254 Introduction to the Global Energy Industry

G 3

Reviews the worldwide demand for energy today and its forecasted growth. Through a series of lectures by industry executives, students will glimpse the challenges faced in the coal, nuclear, gas turbine and renewable technology sectors. Students take a 'deep' dive into a technology of choice and deliver a team presentation to peers.

Prereq: Enrollment in MBA or WPMBA program. Not open to students with credit for 894.01.

7256 Tools for Data Analysis

G 1½

This course is designed to introduce students to commonly used software programs in data science and improve students' problem solving skills and logical thought processes. Students will be exposed to R, SAS, and SPSS.

Prereq: MBA 6271 or 6273.

7257 Data Analysis and Visualization

G 3

Designed to equip students with competencies in translating real-world problems into forms that such technologies can assist with, to portray/visualize these translations in ways that enhance the understanding of the dynamics of these problems, to structure mechanisms that derive suggested solutions, to clearly convey the justification and practicality of final solutions to others.

Prereq: Enrollment in the MBA or WPMBA program; or permission of instructor.

7258 Sports Analytics for Business

G 1½

Analytical techniques and quantitative methods are on the rise in many areas of industry, and, of late, have made their foray into the sports realm. Skills such as critical thinking, mathematical modeling, statistical analysis, predictive analytics and optimization are crucial in the data-centric realm. The class seeks to develop and refine these skills in the business application area of sports.

Prereq: MBA 6271, and enrollment in MBA or WPMBA program.

7259 Operations and Technology Strategy

G 1½

Develop a unifying framework for analyzing strategic issues in operations. Use theory and cases to illustrate and explore the concept of operations and technology strategy. Covers strategic decisions on technology, facilities, vertical integration, human resources, global operations and social issues.

Prereq: Enrollment in MBA, WPMBA, or MAcc program. Not open to students with credit for 834.

7261 MBOE Lean Enterprise Leadership

G 3

Introduces three important methods: Hoshin Kanri (or policy deployment); Value Stream Mapping, and A3 storyboards. We will also begin defining projects and use the methods covered to analyze and document the value streams.

Prereq: Enrollment in MBOE. Not open to students with credit for 840.02.

7262 MBOE Capstone/Cornerstone Project

G 1½

Capstone Project is a supervised practical project executed by the student with the help of a team in the student's own workplace. A faculty coach supervises and guides the effort and a company sponsor supports the effort of the student team.

Prereq: Enrollment in MBOE. Not open to students with credit for 841. Repeatable to a maximum of 6 cr hrs.

7263 MBOE Value Stream Management

G 3

Presents students with the state-of-the-art strategic and operational approaches to planning and implementing effective change across an enterprise. Students will be taught to identify and analyze concerns and implement solutions.

Prereq: Enrollment in MBOE. Not open to students with credit for 842.

7264 MBOE Stabilizing Operations

G 3

The objective of this course is to present students with the state-of-the-art tools for stabilizing operations and maintaining stability. Students will be taught to identify and analyze strategic core enterprise-wide concerns and implement solutions.

Prereq: Enrollment in MBOE. Not open to students with credit for 843.

7265 MBOE Creating and Managing Flow

G 3

This class will cover flow in both service and manufacturing environments. We will consider questions such as how to achieve patient flow in a hospital; and whether Materials Requirements Planning systems and flow processes can co-exist.

Prereq: Enrollment in MBOE. Not open to students with credit for 845.

7266 MBOE Leading Operations

G 3

The explicit link between problem solving and lean activities such as policy management, standardized work, visual management, human resources management and "go see" (gemba) activities are explained.

Prereq: Enrollment in MBOE. Not open to students with credit for 844.

7267 MBOE Six Sigma

G 3

Designed to familiarize students with the Six Sigma process improvement methodology and to provide them an opportunity to practice using Six Sigma Black Belt tools.

Prereq: Enrollment in MBOE. Not open to students with credit for 810. This course is progress graded.

7268 MBOE Six Sigma Projects

G 3

Six Sigma Project is a supervised DMAIC project executed by the student and with the help of a team in the student's own workplace. A faculty coach supervises and guides the effort and a company sponsor supports the effort.

Prereq: Enrollment in MBOE. Not open to students with credit for 811.

7269 MBOE Change & Innovation for Ops Excellence

G 3

Course is designed to familiarize students with the application of lean principles in three additional key areas of the organization. The total lean transformation requires a change in the way we lead throughout the organization.

Prereq: Enrollment in MBOE. Not open to students with credit for 847.

7270 MBOE Managing the Extended Value Stream

G 3

A focus on working across functions, companies and cultures and managing the Extended Value Stream.

Prereq: Enrollment in MBOE. Not open to students with credit for 848.

7701 Managing Business Operations for Health Sciences

G 1½ - 3½

Many firms have demonstrated that operations management can be an effective competitive weapon. In conjunction with well-conceived marketing and financial plans, these firms have made major penetrations into markets worldwide. This course is designed to address the key operations issues in service and manufacturing organizations that have strategic as well as tactical implications.

Prereq: Enrollment in the Graduate Business Minor in Health Sciences.

7717 Capstone: Healthcare Business Solution Teams

G 1½ - 3½

This class focuses on diagnosing and solving real-world problems in life science and healthcare business practices.

Prereq: 7701, BusFin 7702, and BusMHR 7703.

7800 Advanced Topics in Management Sciences for EMBA

G 1½ - 3

Advanced Topics in Management Sciences for students in the Executive MBA Program.

Prereq: Enrollment in EMBA program. Repeatable to a maximum of 15 cr hrs or 7 completions.

7999 Research in Management Sciences: Thesis

G 1 - 12

Research for thesis purposes only.

Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 4 completions. This course is progress graded (S/U).

8230 Strategic Management of Operations I

G 1½

Doctoral research seminar: critical analysis of research studies in different areas of operations management; linking operations to the corporate strategy, dimensions of operations strategy.

Prereq: Enrollment in BusAdm PhD program.

8231 Strategic Management of Operations II

G 1½

Doctoral research seminar: critical analysis of research in vertical integration decisions, and measuring operational effectiveness, interorganizational collaboration.

Prereq: Enrollment in BusAdm PhD program.

8232 Operations Planning & Control I

G 1½

Doctoral research seminar: critical analysis of research in fundamental and classical operations management and operations research topics.

Prereq: Enrollment in BusAdm PhD program.

8233 Operations Planning & Control II

G 1½

Doctoral research seminar: Critical analysis of research studies in inventory management, warehouse and facility location, vehicle routing, MRP and forecasting.

Prereq: Enrollment in BusAdm PhD program.

8234 Innovation Management

G 1½

Doctoral research seminar: Critical analysis of research in portfolio management, NPD, managing NPD teams, distributed and platform innovation, and innovation implementation.

Prereq: Enrollment in BusAdm PhD program.

8235 Fundamentals of Operational Excellence

G 1½

Doctoral research seminar: Critical analysis of research in quality management, lean, six sigma, designing operations to support and sustain innovation, integrating technology into operations.

Prereq: Enrollment in BusAdm PhD program.

8236 Service Operations I

G 1½

Doctoral research seminar: critical analysis of research in designing effective service delivery models, service quality, measuring service performance, service profit chains.

Prereq: Enrollment in BusAdm PhD program.

8237 Service Operations II

G 1½

Doctoral research seminar: Critical analysis of research in healthcare operations, retail operations, and IT service operations, sharing economies.

Prereq: Enrollment in BusAdm PhD program.

8240 Operations Method I

G 3

Doctoral research seminar: critical analysis of philosophy of science, qualitative/case study research, survey-based research, research employing secondary data sources.

Prereq: Enrollment in BusAdm PhD program.

8241 Operations Method II

G 3

Doctoral research seminar: critical analysis of analytical research methods and dynamic programming.

Prereq: Enrollment in BusAdm PhD program.

8242	Operations Management Seminar Speaker Series	G	1½
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Doctoral research seminar: Critical analysis of research in different areas of behavioral operations; practice in developing research questions and formulating hypotheses; presentation of original research of publishable quality.

Prereq: Enrollment in BusAdm PhD program. Repeatable to a maximum of 3 cr hrs.

8999	Research in Management Sciences: Dissertation	G	1 - 12
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Research for dissertation purposes only.

Prereq: Permission of instructor. Repeatable to a maximum of 48 cr hrs or 8 completions. This course is progress graded (S/U).

Business Admin: Marketing & Logistics

3150	Foundations of Marketing	U	3
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Presents the concepts, framework and tools of market-based management. Topics include the marketing concept and the role that product, price, promotion and distribution play in marketing strategy and implementation.

Prereq: Econ 2001.01 (200), or equiv. Not open to students with credit for 3250 (650) or 450. Not open to students in BSBA.

3194	Group Studies	U	1 - 6
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Topics in Marketing and Logistics

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 6 completions.

3241	Introduction to Entrepreneurial Marketing	U	3
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Focuses on marketing concepts of entrepreneurs leading growth-oriented companies. Typically these are small, young companies with ambitions to become major enterprises.

Prereq: Econ 2001.01 (200) or AEDEcon 200, or equiv, and Math 1130 (130), or equiv. Not open to students with credit for 4241 or 490.

3250	Principles of Marketing	U	3
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Presents the concepts, framework and tools of market-based management to deliver superior customer satisfaction, value and profitability. The focus of the course is on identifying, creating, delivering and measuring value creation.

Prereq: Econ 2001.01 and 2002.01. Not open to students with credit for 3150 (650) or 450 or to students enrolled in UUSS, UExp or PreBSBA-PR.

3380	Logistics Management	U	1½
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Concepts and methods used to plan and manage logistics activities in a business environment. Understanding of the components of logistics management and tradeoffs required to manage the integrated flow of goods through the supply chain.

Prereq: Econ 2001.01 (200), or equivalent; and 2002.01 (201), or equivalent. Not open to students with credit for 780 or to students enrolled in UUSS, UExp, or PreBSBA-PR.

4193	Individual Studies	U	1 - 4
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Topics in Marketing and Logistics.

Prereq: Permission of instructor. This course is graded S/U.

4194.51	Group Studies	U	1 - 4
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Topics in Marketing and Logistics.

Prereq: Permission of instructor.

4194.52	Group Studies	U	1 - 4
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Topics in Marketing and Logistics.

Prereq: Permission of instructor.

4194.53	Group Studies	U	1 - 4
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Topics in Marketing and Logistics.

Prereq: Permission of instructor.

4201	Consumer Behavior	U	3
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Examines how and why people behave as consumers. Its goals are to provide an understanding of consumer behavior and to provide experience in the application of this knowledge to marketing management and social policy decision making.

Prereq: 3250 (650), and AcctMIS 2200 (211), 2300 (212), and BusMGT 2320 (330), 2321 (331); and BusMHR 2291 or 2292 (BusADM 499.01). Not open to students with credit for 750.

4202	Marketing Research	U	3
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Course examines the role of marketing research in the formulation and solution of marketing problems. Emphasis is placed on problem formulation, research design, data collection methods (instruments, sampling, operations) and analysis techniques.

Prereq: 3250 (650), and AcctMIS 2200 (211), 2300 (212), and BusMGT 2320 (330), 2321 (331); and BusMHR 2291 or 2292 (BusADM 499.01). Not open to students with credit for 758.

4203	Marketing Strategy	U	1½
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This case course focuses on strategic planning examining how environmental factors affect long-term marketing strategies, how firms adapt to opportunities and threats in dynamic environments and how to assess development of competitive advantages.

Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 752.

4204	Marketing Projects	U	3
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In this advanced marketing course students will act as a consulting team and work with a client firm on a marketing problem, produce a report and present their work.

Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv; or enrollment in regional campus General Business Program.

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4210	Advanced Market Research	U	1½
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Applications of modern marketing research procedures to variety of marketing problems.

Emphasis placed on survey design and sampling, attitude measurement, perceptual mapping, market segmentation, conjoint analysis, and measurement of customer satisfaction.

Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv.

4211	Market Analysis, Development & Forecasting	U	1½
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Before a new product can be launched, or new customers targeted a firm must assess the size and demand for an offering. Methods used to forecast consumer behavior, market share, and sales (for production and inventory control) will be examined.

Prereq: 4201 (750) or 4202 (758), or equiv, and BusMHR 2292 (BusAdm 499.01).

4212	Customer Relationship Management	U	1½
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Examines the theories of methods used to identify profitable customers, understand their needs and wants, and how to build a bond with them by developing customer-centric products and services directed toward providing customer value.

Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv.

4220	Sales Management	U	1½
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Provides an overview of the sales management process. It covers topics, such as sales force planning, budgeting, recruiting, selection, training, compensation, supervision, deployment and control.

Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 759.

4221	Professional Selling	U	1½
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Provides a practical, hands-on understanding of the professional selling process. Students will learn how companies use personal selling to enhance their business and develop the skills necessary to be an effective account manager.

Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 761.

4222	Services Marketing	U	1½
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Examines customer touch point analysis, brand consistency and integrating customer information across the organization. Issues addressed: understanding service failure and recovery, management of service employees and the establishment of a service culture.

Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 760.

4223	Foundations of Sales and Sales Management	U	3
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Examines the basics of business-to-business professional selling and provides core sales management building blocks. Emphasizes the importance of building relationships and adding substantial value to business customers while providing a theoretical and practical overview of the selling and buying process, salesforce structure, and sales tools.

Prereq: 4201, 4202, and BusMHR 2292, or equiv. Not open to students with credit for 4220 and 4221.

4230	Advertising Management	U	1½
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Provides the tools needed to develop, manage and evaluate an integrated marketing communication campaign. Communication fundamentals, goal setting, creative and media strategy, campaign development and measurement issues are explored.

Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 755.

4231	Promotional Strategy	U	1½
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Examines how marketers utilize promotional campaigns to enhance marketing efforts. The tools needed to design, evaluate and analyze effectiveness of promotions, sponsorships, events and branded entertainment programs are explored.

Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 755.

4232	Digital Marketing	U	1½
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Examines how marketers can utilize emerging media (electronic, online, social and mobile) to promote customer engagement, enhance their traditional marketing mix, and measure the effectiveness of marketing efforts.

Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 754.

4233	Advertising and Promotional Strategy	U	3
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Provides the tools needed to develop, manage and evaluate an integrated marketing communication campaign. Examines how marketers utilize advertising and promotional programs to enhance marketing efforts. Communication fundamentals, goal setting, creative and media strategy, campaign development and measurement issues, and pricing implications are explored.

Prereq: 4201, 4202, and BusMHR 2292, or equiv. Not open to students with credit for 4230 and 4231.

4240	New Product Management	U	1½
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Examines strategies for development of successful new products. The five modules of the process (i.e., opportunity identification, concept generation, concept evaluation, product design and development, and launch) will be covered.

Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 756.

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4241	Entrepreneurial Marketing	U	1½		4998H	Honors Research	U	½ - 4
	Examines best practices in Entrepreneurial Marketing including analysis of marketing opportunities, identification of target audience, development of marketing strategy, brand positioning and an integrated marketing plan.				Special Topics Research in Marketing and/or Logistics. Research evaluated through papers, thesis, and/or special examinations.			
	Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01).				Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is progress graded.			
4251	Retail Management	U	1½		5381	Transportation Management	U G	3
	Examines contemporary distribution channels; focus on strategic decisions for successful retail practices; examine industry trends to highlight how companies design and manage retail and e-tail environments.				Issues and strategies in transportation management and policy; emphasis on study of modes of transportation, intermodal and international transportation, capacity management, competitive relations between modes; aspects of carrier management.			
	Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 753.				Prereq: 3380, and AcctMIS 2200 (211), 2300 (212), and BusMGT 2320 (330), 2321 (331); and BusMHR 2291, or 2292 (BusADM 499.01), or enrollment in MBLE. Not open to students with credit for 784.			
4252	Social Marketing & Public Policy	U	1½		5389	Logistics Decision Making	U G	3
	Examines social marketing, which seeks to benefit a targeted population and the general society rather than a marketer or firm. Non-profit, cause marketing, corporate social responsibility, and sustainability issues are explored.				Analysis of logistics decision making in the context of the business environment; application of the solution methods needed to meet business goals. Capstone designed to expand on previous courses and prepare students to implement logistics concepts.			
	Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv.				Prereq: 4380. Prereq or concur: 4382 and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 782.			
4253	Global Marketing	U	1½		7193	Individual Studies	G	½ - 4
	Examines the theory of marketing across national borders, as well as marketing and market research within different foreign environments, including the development of marketing strategies by the international company. Marketing majors only.				Topics in Marketing and Logistics.			
	Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 4254 (757).				Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 6 completions. This course is graded S/U.			
4254	International Marketing	U	3		7194.51	Group Studies	G	1 - 4
	For International Business majors only. Examines theory and practice of marketing across national borders, marketing and market research within different foreign environments, and development of marketing strategies by the international company. Does not count as elective credit for the Marketing major.				Topics in Marketing and Logistics.			
	Prereq: 3250 (650) and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 4253 (757).				Prereq: Permission of instructor.			
4380	Advanced Logistics Management	U	1½		7194.52	Group Studies	G	1 - 4
	Advanced coverage of the concepts and methods used to plan and manage logistics activities in a business environment; in-depth understanding of the components of logistics management and tradeoffs required to manage the integrated flow of goods.				Topics in Marketing and Logistics.			
	Prereq: 3380, and AcctMIS 2200 (211), 2300 (212), and BusMGT 2320 (330), 2321 (331); and BusMHR 2291 or 2292 (BusADM 499.01).				Prereq: Enrollment in MBA program, WPMBA program, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 6 completions.			
4382	Logistics Analytics	U	3		7200	Marketing Strategy	G	1½
	Will equip student with the tools and skills necessary to recognize, analyze and solve significant problems in the operation of a logistics system through the application of techniques using spreadsheet analysis, optimization and simulation.				This course uses case analysis to study the development of strategies to position firms with respect to customers and competitors and the integration of the relevant marketing concepts, principles, and activities into effective implementation plan.			
	Prereq: 4380, BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 781.				Prereq: MBA 6252 (840).			
4383	Supply Chain Management	U	1½		7201	Marketing Research and Analytics	G	1½
	Focuses on distinction between logistics and supply chain management; cross-functional integration of key business processes within the firm and across network of firms that comprise supply-chain; framework for supply chain management.				Exploration of issues related to data analysis for marketing decisions: costs/benefits of analysis in aggregate; difference between descriptive and structural models; complexities of imperfect information.			
	Prereq: 3380, and AcctMIS 2200 (211), 2300 (212), and BusMgt 2320 (330), 2321 (331); and BusMHR 2291 or 2292 (BusAdm 499.01). Not open to students with credit for BusML 785.				Prereq: MBA 6252 or 6253. Not open to students with credit for 847.			
4385	Building a Sustainable Supply Chain	U	1½		7202	Consumer Behavior	G	1½
	Focuses on understanding how to measure and impact the long-term sustainability of a company's supply chain operations; learn practices for reducing carbon footprints and creating a more resilient supply chain, while meeting financial goals.				Development of the consumer decision process and its application to marketing strategy decisions.			
	Prereq: 3380, and AcctMIS 2200 (211), 2300 (212), and BusMGT 2320 (330), 2321 (331); and BusMHR 2291 or 2292 (BusADM 499.01).				Prereq: 6250 or MBA 6252 or 6253. Not open to students with credit for 854.			
4386	Logistics Technology and Application	U	1½		7203	Advertising Strategy and Management	G	1½
	Focus on the operational use of logistics software technologies such as transportation management systems, warehouse management systems, and inventory management systems. Course taught in a lab environment with tools for lectures, exercises and HW.				The advertising process, partnership with an ad agency, uncovering consumer insight to drive advertising strategy, formulating and guiding advertising strategy, media planning concepts, and measuring advertising effectiveness.			
	Prereq: 3380, and AcctMIS 2200 (211), 2300 (212), and BusMgt 2320 (330), 2321 (331); and BusMHR 2291 or 2292 (BusAdm 499.01).				Prereq: 6250 or MBA 6252 (840). Not open to students with credit for 846.			
4387	Lean Logistics	U	1½		7204.01	Customer Management, Pricing, and Analytics II	G	1½
	Examines using Lean tools and insights to remove bottlenecks and impediments to efficient, effective logistics, resulting in reduced logistics costs and improved service.				Tools for predicting the effects of product reformulation. A choice simulator is constructed to investigate the source of volume and effect of targeted marketing actions. A comparison to, and the integration of, marketplace data is examined.			
	Prereq: 4380 and BusMHR 2292 (BusAdm 499.01).				Prereq: MBA 6250, 6252, or 6253. Not open to students with credit for 7204.02.			
4388	Warehouse Operations	U	1½		7204.02	Customer Management, Pricing, and Analytics II	G	1½
	Study of general warehouse operations, focusing on facility layout, financial analysis, labor relations, warehouse management systems, productivity improvement and measurement; impact of corporate and industry strategies on warehouse operations.				Tools for predicting the effects of product reformulation. A choice simulator is constructed to investigate the source of volume and effect of targeted marketing actions. A comparison to, and the integration of, marketplace data is examined.			
	Prereq: 3380, and AcctMIS 2200 (211), 2300 (212), and BusMGT 2320 (330), 2321 (331); and BusMHR 2291 or 2292 (BusADM 499.01).				Prereq: MBA 6250, 6252, or 6253. Concur: BusML 7219.02. Not open to students with credit for 7204.01.			
4998	Undergraduate Research in Marketing & Logistics	U	1 - 3		7205	Services Marketing	G	1½
	Undergraduate Research in Marketing & Logistics for non-honors students.				Focus on equipping students to become more effective leaders of service organizations as well as more enlightened customers of service firms.			
	Prereq: BusAdm 2291 or 499, and Jr standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.				Prereq: MBA 6252 (840).			

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7207 Pricing Strategy	G 1½
Focus on microeconomic theory, statistics and psych to shed light on pricing. Explore foundation of sound pricing decisions: costs, customer and competition, and then move on to current pricing strategies, tactics and their application.	
Prereq: MBA 6250 or 6252 (840). Not open to students with credit for 851.	
7208 Digital Marketing	G 1½
Management of digital marketing assets in order to develop strategies and execute tactics associated with cross-channel marketing in the digital era.	
Prereq: 6250 or MBA 6252 (840).	
7208.02 Advertising, Promotion, and Digital Marketing II	G 1½
Management of digital marketing assets in order to develop strategies and execute tactics associated with cross-channel marketing in the digital era.	
Prereq: MBA 6250, 6252, or 6253. Concur: BusML 7203.02. Not open to students with credit for 7208.01 or 7208.	
7209 Strategic Sales Force Management	G 1½
Focuses on management of the sales function and its coordination with other components of marketing strategy including pricing, product development, promotion, and distribution.	
Prereq: MBA 6252 or 6253.	
7211 Consumer Psychology	G 1½
Course delves into consumer psych, and the means by which consumer behavior can be influenced or altered. Course will explore the psychological underpinnings of consumer information processing, attitude formation and persuasion, learning and memory.	
Prereq: 6250 or MBA 6252 (840).	
7212 Business Development: Client Acquisition & Retention	G 1½
Explore the value process in business to business relationships, leading such relationships; facilitating alliances; leading customer solutions; understanding interfaces with other functions; and quantifying/measuring value.	
Prereq: MBA 6252 or 6253.	
7214 Cross Channel Marketing	G 1½
Examines the unique challenges of bringing a service brand to life across multiple channels. Understanding the methods, processes and approaches to creating holistic experiences that resonate with the target audience is covered.	
Prereq: MBA 6252 or 6253.	
7215 Global Marketing and Sustainability	G 1½
Review core concepts of global marketing including, pricing, research, positioning, strategy, social responsibility, communicating with world consumers, and management team development from a sustainability viewpoint.	
Prereq: 6250 or MBA 6252 or 6253. Not open to students with credit for 845.	
7217 Marketing Projects	G 3
Students work in teams as consultants, apply marketing concepts and principles to actual client problems, and present their recommendations to executives of their client organization.	
Prereq: MBA 6252 or 6253. Not open to students with credit for 849.	
7218 New Product Management	G 1½
Strategies and tools for the development of successful new products. Emphasis is placed on opportunity identification, concept generation and testing, product design, and development and launch.	
Prereq: MBA 6252 (840).	
7219.02 Customer Management, Pricing, and Analytics I	G 1½
Tools for the analysis of survey and marketplace data. Topics include design of the surveys, scale development, analysis of the recency, frequency and monetary value of transactions, web-based 'click-stream' data and others.	
Prereq: MBA 6250, 6252, or 6253. Concur: BusML 7204.02. Not open to students with credit for 7219.01 or 7219.	
7225 Marketing Metrics	G 1½
Marketing Metrics are critical for assessing the Return On Investment (ROI) of marketing actions and for making and justifying marketing mix decisions. This course is designed to a) identify key marketing metrics, b) illustrate how these metrics can be used in managerial decision-making, c) show the link between marketing and financial metrics, and d) teach skills to develop a marketing dashboard.	
Prereq: MBA 6252 or 6253.	
7226 Marketing Simulation	G 1½
Student teams analyze a business case and formulate their strategy for the firm. Within the context of a realistic and complex business simulation, students will implement their strategy through submission of marketing variable decisions and analysis of market response.	
Prereq: MBA 6252 or 6253.	
7227 Prescriptive Data Analysis	G 1½
Focuses on identifying the best course of action to take in response to what is known about the business and its environment. Students will develop skills in translating business objectives, threats and opportunities into actionable data collection and analysis. Students will also become exposed to and become proficient with concepts spanning the analysis of pre-existing, secondary data.	
Prereq: MBA 6252 or 6253.	

7228 Data Driven Marketing	G 1½
Increasing computing power allows companies amassing large amounts of customer data. As a consequence, marketing decisions are becoming more data driven. Students will learn statistical learning concepts related to marketing data analytics; tools, techniques, and advanced models will be introduced not only for predicting consumer choices but also for measuring the effectiveness of marketing effort.	
Prereq: MBA 6252 or 6253.	
7380 Strategic Logistics Management	G 1½
Develop an understanding of key drivers of logistics performance and their inter-relationships with strategy and other functional areas. Focus on developing analytic, problem-solving, and cost trade-off management skills.	
Prereq: Enrollment in MBA, MBL, or MAcc.	
7381 Logistics Decision Making	G 1½
This case-based course will prepare students to make data-driven decisions on key logistics issues and then make these decisions actionable through a focus on appropriate solution methods needed to achieve firm financial goals.	
Prereq: 7380.	
7382 Logistics Analytics	G 1½
Focuses on the application of quantitative techniques. Problems addressed include demand forecasting, inventory control, and network design using spreadsheet analysis, optimization and simulation.	
Prereq or concur: 7380.	
7383 Supply Chain Management	G 1½
Students learn the distinction between logistics and supply chain management (SCM) and develop SCM skills with a focus on cross-functional integration of key processes within the firm and across the network of firms that comprise the supply chain.	
Prereq or concur: MBA 6252 or 6253, or enrollment in MAcc program, or enrollment in MBL program.	
7386 Logistics Technology and Application	G 1½
Focus on the operational use and appropriate contextual use of logistics software technologies such as transportation management systems, warehouse management systems, inventory management and network design.	
Prereq: 7380.	
7387 Lean Logistics	G 1½
Examines using Lean tools and insights to remove bottlenecks and impediments to efficient, effective logistics, resulting in reduced logistics costs and improved service.	
Prereq: 7380.	
7388 Field Problems in Logistics	G 3
Advanced graduate studies course where students work in groups as consultants to solve actual business problems for clients. Objectives include developing problem solving skills and gaining practical experience.	
Prereq: 7380.	
7715 Attracting and Retaining Customers in Health Sciences	G 1½
This class focuses on the process of attracting and retaining customers in the health sciences industry. Students will explore how to drive growth through new patient acquisition and retention as well as by understanding the practice's ability to provide value, and the patient's needs in relation to that value.	
Prereq: BusMgt 7701, BusFin 7400, and BusMHR 7264; and enrollment in the Graduate Business Minor in Health Sciences.	
7999 Research in Marketing: Thesis	G 1 - 12
Topics in Marketing and Logistics.	
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is progress graded (S/U).	
8250 Consumer Behavior	G 4
Study of the academic literature on consumer behavior with emphasis on the theoretical and empirical contributions of consumer research.	
Prereq: Doc standing in BusAdm, or permission of instructor. Repeatable to a maximum of 8 cr hrs.	
8252 Marketing Models	G 2 - 4
A study of recent model-based research in the marketing literature; emphasis on the strengths and weaknesses of various modeling approaches in specific problem areas and evaluation of model-based research.	
Prereq: Doc standing in BusAdm, or permission of instructor. Not open to students with credit for 951. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is progress graded.	
8253 Recent Advancements in Marketing Research	G 1½ - 4
Provide students with exposure to leading marketing scholars and their most current research and give them an opportunity to critically evaluate it.	
Prereq: Doc standing in BusAdm, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 6 completions.	

76 Business Admin: Marketing & Logistics

8380 Research Seminar in Logistics

G 1½

Research issues in logistics. For each topic, key literature will be reviewed and discussed to understand the current state of research in the area, evaluate the research methodologies employed, and identify gaps in the academic literature.

Prereq: 7380 and 7381, and enrollment in Fisher College of Business PhD program. Repeatable to a maximum of 9 cr hrs.

8381 Research Seminar in Supply Chain Management

G 1½

Focuses on research issues in supply chain management.

Prereq: 7380 (880) and 7383 (885). Repeatable to a maximum of 9 cr hrs.

8382 Research Seminar in Transportation

G 1½

Research Issues in Transportation. For each topic, key literature will be reviewed and discussed to understand the current state of research in the area, evaluate the research methodologies employed, and identify gaps in the academic literature.

Prereq: 7380 and 7381, and enrollment in Fisher College of Business PhD program.

Repeatable to a maximum of 9 cr hrs.

8383 Optimization Modeling in Logistics

G 1½

Focus on the application of optimization modeling techniques to logistics problems. The goal is to familiarize students with advanced modeling techniques and learn how they have been applied to solve logistics problems in the academic literature.

Prereq: 7380 and 7381. Repeatable to a maximum of 9 cr hrs.

8999 Research in Marketing and Logistics: Dissertation

G 1 - 12

Topics in Marketing and Logistics.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded (S/U).

Business Technology

1151T General Economics

U 3

Study of macro and micro-economic principles applicable to business, agricultural and personal financial decision making.

Prereq or concur: GenMath 1040T or Math 1050 or Math Placement Level R or higher. Not open to students with credit for AEDecon 2001. This course is available for EM credit.

1201T Exploring Business

U ½

Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

1202T Software Applications

U 1

An overview of basic computer skills and study of the features and capabilities of presentations, word processing, spreadsheet and database software as decision management aids.

Prereq: Not open to students with credit for 202T. This course is available for EM credit.

2191T Business Internship

U 3

Experience of employment in a business to provide varied occupational experience, supervised by an employer, and coordinated by faculty. A grade of C or better required to meet graduation requirements.

Prereq: GPA 2.00 or above, and permission of instructor. Not open to students with credit for 290.02T or 290.03T. Repeatable to a maximum of 6 cr hrs.

2193T Individual Studies

U 1 - 3

Designed to give an individual student an opportunity to pursue special studies not offered in other courses.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

2194T Group Studies

U 1 - 3

Designed to give groups of students an opportunity to pursue special studies not offered in other courses.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

2207T Problem Solving with Spreadsheets and Databases

U 2

A problem-solving approach to managing typical business scenarios utilizing spreadsheets and databases.

Prereq: 1202T (202T). Not open to students with credit for 204T and 205T. This course is available for EM credit.

2231T Fundamentals of Marketing

U 3

A survey of the field of marketing including functions, policies, problems, structure, strategies, and opportunities.

Prereq or concur: 1151T (151T) or AEDecon 2001 (200). Not open to students with credit for 231T. This course is available for EM credit.

2232T Personal Selling

U 3

A study of the basic principles and concepts of personal selling with emphasis on practical application and personal interaction.

Prereq: Not open to students with credit for 232T. This course is available for EM credit.

2233T Advertising and Promotion

U 3

A theory of retail advertising and its practical application, with emphasis on planning, implementation, control, merchandise projection, and supportive promotional techniques.

Prereq: Not open to students with credit for 233T. This course is available for EM credit.

2240T Introduction to Project Management

U 3

An introduction to project management concepts and techniques focusing on how to initiate, plan, manage, control, and close a project.

This course is available for EM credit.

2241T Small Business Management

U 3

A general study of the field of small business focusing on policies, strategies, organization, operation, and problems associated with the operation of an entrepreneurial enterprise.

Prereq: 1151T (151T) or AEDecon 2001 (200); AEDecon 2105 (BusTec 101T or 102T). Not open to students with credit for 241T. This course is available for EM credit.

2244T Human Resource Management and Leadership

U 3

A study of human resource, supervisory, and leadership principles and practices that focus on recruitment, training, evaluating, and compensating employees for improved productivity.

Prereq: Not open to students with credit for 244T and 245T. This course is available for EM credit.

2247T Business Law

U 3

A study of legal principles, contracts, negotiable instruments, leases, sales, product liability, and consumer protection.

Prereq: Not open to students with credit for 247T. This course is available for EM credit.

2248T Introduction to Cooperatives

U 2

An examination of business organizations including cooperatives and non-cooperatives.

Analysis of the role of government in American business, with emphasis on the history, legal basis, organization, and operation of cooperatives.

Prereq: Not open to students with credit for 248T. This course is available for EM credit.

2249T Fundamentals of Business Finance

U 3

A study of basic finance principles, such as financial institutions, time value of money, financial analysis, risk and return, budgeting, and investments.

Prereq: AEDecon 2105 (BusTec 101T or 102T). Prereq or concur: 1151T (151T) or AEDecon 2001 (200). Not open to students with credit for 249T. This course is available for EM credit.

2250T Fundamentals of International Business

U 3

An overview of international business including the environment, strategies, issues, decisions, and challenges that global businesses encounter.

Prereq: 2100T (100T) or 2231T (231T) or 1151T (151T) or AEDecon 2001 (200). This course is available for EM credit.

Cancer Biology and Genetics

4998 CBG Undergraduate Research

U 1 - 10

Individual minor investigation in the field of virology, immunology, microbial pathogenesis, or cancer genetics.

Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

5000 Evolution of Emerging Viruses

U G 2

Emphasis on the biochemical, molecular, cellular, clinical, epidemiological and etiological aspects of emerging and re-emerging human viruses and unconventional agents and their associated diseases. 2 years in the Biological Sciences is recommended.

Prereq: Biology 1101 and Chem 1110, or equiv. Not open to students with credit for 600.

5696 Sexuality, Health and Sexually-Transmitted Pathogens

U G 2

Examination of aspects pertaining to sexual health and the pathogenic agents transmitted by sexual contact that pose a risk to sexual well being. Basic chemistry, biology, and a general microbiology course are recommended, but not required.

5700 Introduction to Personalized Therapeutics and Pharmacogenomics

U G 3

Exploration of the trend to therapy tailored to the individual patient rather than "one drug fits all;" inter-individual differences in drug responses, with emphasis on genetic and genomic factors; ethical, regulatory and economic issues that impact drug therapies.

Cross-listed in BioPhrm and Phr.

6930 Individual Studies

G 3

Individual minor investigation in the field of virology, immunology, microbial pathogenesis or cancer genetics.

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

7010 Cellular and Molecular Immunology

G 3

Cellular and molecular mechanisms of immune response, cell recognition and communication, molecular biology of cell recognition structures, cytokines, and effector mechanisms.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for MVIMG 701. Cross-listed in Microbio.

7470 Fundamentals of Muscle Biology

G 1 - 2

Team-taught course focusing on the didactic approach to understanding skeletal muscle from the basic structure-function relationship to the molecular mechanisms that underlie muscle diseases and strategies on how to model and treat these pathologies.

Prereq: Not open to students with credit for 747.

7741 Molecular Biology and Pathogenesis of Viruses

G 5

An integrated study of the molecular mechanisms of virus replication and host-virus relationships that control virus pathogenesis or use as a therapeutic agent.

Prereq: Grad standing, or permission of instructor. Cross-listed in MolGen and VetBios.

Cancer Biology and Genetics 77

7931	Student Seminar in Cancer Biology and Genetics	G	1		2523	Separation Processes	U	3
	Student and post-doctoral presentations of research.				The application of mass and energy balances and transport phenomena such as fluid, heat, and mass transfer to chemical engineering separation operations of distillation, absorption, evaporation, extraction, drying, etc.			
	Repeatable to a maximum of 6 cr hrs. This course is graded S/U.				Prereq: 2200 (201), and enrollment in CBE major. Prereq or concur: 2420 (420), or permission of instructor or Grad standing. Not open to students with credit for 523.			
8010	Selected Topics in Advanced Immunology	G	3		3508	Thermodynamics	U	4
	Students will gain significant insight into immunological concepts of infectious diseases, transplant, cancer, mucosal immunity, allergy and autoimmunity. Two or three topics discussed in depth, topics alternate yearly.				Application of the fundamental concepts and laws of thermodynamics to problems of the chemical industry; stress on computational problem work.			
	Prereq: 7010. Repeatable to a maximum of 6 cr hrs. This course is graded S/U. Cross-listed in Microbio and VetBio.				Prereq or concur: 2420 (420), and enrollment in CBE, FABEng, or EngPhysics major; or permission of instructor. Not open to students with credit for 509.			
8040	Mass Spectrometry and Proteomics	G	3		3521	Transport Phenomena II	U	4
	An overview of mass spectrometry based proteomics in the biological sciences. Will cover topics related to qualitative and quantitative mass spectrometry.				Emphasis on conduction, convective and radiation heat transfer, mass transfer and stagewise operations with applied computational problems.			
8142	Current Topics Immunology	G	1		Prereq: 2420 (420), and enrollment in CBE, FABEng, or EngPhysics major; or permission of instructor or Grad standing. Not open to students with credit for 522.			
	Journal club format course discussing immunology from a historical perspective, identifying critical discoveries that provide an understanding of how the immune system functions and how these findings influence our research methods and concepts today.				3610	Kinetics and Reactor Design	U	4
	This course is graded S/U.				Chemical and engineering principles for the design and operation of chemical reactors; kinetics of simple homogeneous systems and introduction to heterogeneous catalysis.			
8270	Biochemical Mechanisms of Carcinogenesis	G	2		Prereq or concur: 3508 (509) or FABE 3120; and enrollment in CBE, or FABEng, or EngPhysics major; or permission of instructor; or Grad standing. Not open to students with credit for 610.			
	Provide students with an overview of fundamental mechanisms leading to cancer. This will be done through review of current and classic literature.				3631	Chemical and Biomolecular Engineering Unit Operations Laboratory I	U	2
	Prereq: Course work in one year of Grad level Biochem, or permission of instructor. Cross-listed in MCDBio 8270.				Laboratory investigation of the operating characteristics and efficiency of chemical engineering equipment such as distillation, absorption, heat exchangers, and three phase mixing dynamics with mass transfer.			
8310	Current Topics in Human Cancer and Human Genetics	G	2		Prereq or concur: 2523 (523) and 3610 (610), and enrollment in CBE major. Not open to students with credit for 630 or 4630.			
	Covers the current literature in the topics of cancer and other human genetic diseases and develop presentation skills relating to topics summarized from the literature.				3632	Chemical and Biomolecular Engineering Unit Operations Laboratory II	U	2
	Prereq: Course work at Grad level equivalent to 1st year Medicine. This course is progress graded (S/U).				Laboratory investigation of the operating characteristics and efficiency of chemical engineering equipment such as distillation, absorption, heat exchangers, and three phase mixing dynamics with mass transfer.			
8845	The History of Immunology	G	3		Prereq or concur: 2523 (523) and 3610 (610); and enrollment in CBE major. Not open to students with credit for 630 or 4630.			
	Understand immunology and pertinent research, students must understand its history so to appreciate where the field of immunology started, the progress and discoveries made. 7010 is recommended but not required.				4193	Individual Studies in Chemical and Biomolecular Engineering	U	1 - 12
	This course is graded S/U.				Provides the opportunity to pursue special studies or research in biomedical engineering not otherwise covered.			
8999	Research in Cancer Biology and Genetics	G	1 - 18		Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 10 completions.			
	Research for thesis or dissertation purposes only.				This course is graded S/U.			
	Prereq: Grad standing in CBG. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.				4194	Group Studies in Chemical and Biomolecular Engineering	U	1 - 6
					Provides groups of students opportunities to pursue special studies not otherwise offered.			

Catalan

5501	Catalan for Spanish Speakers I	U G	3		4194	Group Studies in Chemical and Biomolecular Engineering	U	1 - 6
	Rapid introduction to Catalan language. Intended for students with at least High Intermediate-level Spanish skills.				Provides groups of students opportunities to pursue special studies not otherwise offered.			
	Prereq or concur: Spanish 3401, 3403, or 3404, or equiv; or permission of instructor.				Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
5502	Catalan for Spanish Speakers II	U G	3					
	Continuation of Catalan 5501. Intended for students with at least High Intermediate-level Spanish skills.				4610	Kinetics and Reactor Design	U	4
	Prereq: 5501.				Chemical and engineering principles for the design and operation of chemical reactors; kinetics of simple homogeneous systems and introduction to heterogeneous catalysis.			

Center for the Study and Teaching of Writing

3467S	Issues and Methods in Tutoring Writing	U	3		4610	Kinetics and Reactor Design	U	4
	Theories and practices in tutoring and writing: explores the writing-learning connections; prepares students to work as writing consultants/tutors for small writing groups.				Chemical and engineering principles for the design and operation of chemical reactors; kinetics of simple homogeneous systems and introduction to heterogeneous catalysis.			
	Prereq: English 1110.01 (110.01), or equiv. Not open to students with credit for HumCol 467 or English 3467S (467). Cross-listed in English.				Prereq: Grad standing in Engineering, or permission of instructor. Not open to students with credit for 3610 (610).			

Chemical and Biomolecular Engineering

2194	Group Studies in Chemical and Biomolecular Engineering	U	1 - 6		4624	Chemical Process Dynamics and Control	U	3
	Provides groups of students opportunities to pursue special studies not otherwise offered.				Study of the dynamics and control of chemical processes; mathematical models of simple processes, including feedback control, are derived, analyzed, and simulated.			
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.				Prereq: 2523 (523) or 3610 (610), and enrollment in CBE major; or Grad standing, or permission of instructor. Not open to students with credit for 624.			
2200	Process Fundamentals	U	4		4760	Chemical and Biomolecular Engineering Process and Product Design Principles I	U	4
	Application of physicochemical principles to problems of the chemical industry; stoichiometry and material balance.				Process and product design concepts encompassing a broad spectrum of fundamental engineering principles including safety, industrial practices and heuristics, flowsheet synthesis, heat integration, process/product development concepts, economic evaluations, and optimization concepts.			
	Prereq: Chem 1220 (123), and Engr 1182 (Engineer 183.01). Prereq or concur: Math 2177 (254), and CPHR 2.0 or above, and permission of department. Not open to students with credit for 200 or 201.				Prereq: 3521, 3610 (610), and enrollment in CBE or EngPhysics major; or Grad standing; or permission of instructor. Not open to students with credit for 760.			
2420	Transport Phenomena I	U	4		4764	Chemical and Biomolecular Engineering Process Design and Development	U	4
	Introduction to momentum, mass, and heat transfer with emphasis on the analogies between them; practical applications of momentum transfer (fluid flow).				Process design studies on selected chemical processes encompassing a broad spectrum of fundamental engineering principles; optimization studies utilizing economic and technical simulation.			
	Prereq: 2200 (201), and Math 2177 or 415.01, and enrollment in CBE, FABEng, or EngPhysics major; or Grad standing; or permission of instructor. Not open to students with credit for 420 or 521.				Prereq or concur: 4760 (760), and enrollment in CBE major. Not open to students with credit for 762.			
4998	Undergraduate Research in Chemical and Biomolecular Engineering	U	1 - 6		4998	Undergraduate Research in Chemical and Biomolecular Engineering	U	1 - 6
	Supervised research in Chemical and Biomolecular Engineering.				Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.				This course is graded S/U.			

78 Chemical and Biomolecular Engineering

4998H	Honors Undergraduate Research in Chemical and Biomolecular Engineering	U	1 - 6	5769	Biomedical Nanotechnology	U G	3
	Supervised Honors level research in Chemical and Biomolecular Engineering.				Survey of biomedical nanotechnology with particular emphasis on nanoscale mass transport, nanomechanics, nanofluidics, bioconjugates and medical therapeutics.		
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.				Prereq: BiomedE 4610 (461), and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 769 or BiomedE 761. Cross-listed in BiomedE 5661.		
4999	Chemical and Biomolecular Engineering Research for Thesis	U	1 - 5	5771	Air Pollution	U G	3
	Supervised research and project work arranged individually for students resulting in written thesis.				Introduction to principal aspects of air pollution, including engineering control of stationary sources, atmospheric chemistry, aerosol behavior, transport and dispersion modeling.		
	Prereq: GPA 3.0 or above, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.				Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 771.		
4999H	Chemical and Biomolecular Engineering Research for Honors Thesis	U	1 - 5	5772	Principles of Sustainable Engineering	U G	3
	Supervised research and project work arranged individually for honors students resulting in written Honors thesis.				Introduces the principles, techniques, and challenges of environmentally conscious decision making in chemical engineering. A study of systematic methods for the analysis and development of sustainable industrial products and processes.		
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.				Prereq: 3508 or equivalent, Grad standing, or permission of instructor. Not open to students with credit for 772.		
5194	Group Studies in Chemical and Biomolecular Engineering	U G	1 - 6	5773	Introduction to High Polymer Engineering	U G	3
	Provides groups of students opportunities to pursue special studies not otherwise offered.				Introduction to polymeric materials, polymerization methods and kinetics, polymer solution properties, molecular weight determination and polymer physical/mechanical properties.		
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.				Prereq: 3610 (610) or Chem 2510 (251), or permission of instructor. Not open to students with credit for 773.		
5200	Introduction to Petroleum Engineering	U G	3	5774	Polymer Membranes	U G	3
	Introduction to petroleum engineering, including fundamental petroleum engineering concepts, quantities and unit systems, petroleum geology, exploration, drilling, reservoir engineering, fluids and rock properties, production, well testing, enhanced/improved oil recovery.				Membrane separation mechanisms, transport models, permeability computations/measurements, membrane materials/types/modules, membrane contactors/reactors, and applications.		
	Prereq: Jr standing or above in Engineering, Earth Sciences, or Business. Concur: EarthSc 5661.				Prereq: 3508 (509), or Grad standing; or permission of instructor. Not open to students with credit for 774 or MatScEn 774. Cross-listed in MatScEn 5774.		
5210	Petroleum Reservoir Engineering	U G	3	5775	Rheology of Fluids	U G	3
	Determination of reserves; material balance methods; aquifer models; fractional flow and frontal advance; displacement, pattern, and vertical sweep efficiencies in waterfloods; enhanced oil recovery processes; design of optimal recovery processes. Systematic theoretical and laboratory study of physical properties of petroleum reservoir rocks.				Principles of rheology, including the characterization of non-Newtonian materials, rheological equations of state, viscometric flows, measurements, and applications to the flow of industrial materials.		
	Prereq: 5200. Concur: EarthSc 5661.				Prereq: 2420 (420), or permission of instructor. Not open to students with credit for 775.		
5550	Engineering Principles in Cancer	U G	3	5777	Introduction to Polymer Engineering at Macro-, Micro-, and Nanoscale	U G	3
	The purpose of this course is to introduce engineering principles in the context of cancer progression and therapy.				An introduction to nanomaterials and nanotechnology. Important polymeric micro/nanomaterials and structures, and their manufacturing techniques.		
	Prereq: MechEng 3500, 3503, or CBE 2420; or permission of instructor. Not open to students with credit for BioMedE 5550 or MechEng 5550. Cross-listed in BioMedE and MechEng.				Prereq: 3521 (521), MechEng 3500 (500), 4510 (510), MatScEn 2251 (401), or 3151 (526), or permission of instructor. Not open to students with credit for 777.		
5710	Computational Catalysis	U G	3	5779	Design and Analysis of Experiments	U G	3
	Methods used to model catalyst reactivity at the atomic-scale; application of quantum methods, primarily density functional theory (DFT); kinetic Monte Carlo and microkinetic modeling; using DFT to simulate surface science and catalysis spectroscopy methods.				Design and analysis of experiments with emphasis on applications in engineering.		
	Prereq: 3610 and Chem 4300; or Grad standing; or permission of instructor.				Prereq: Jr or Sr standing in CBE. Not open to students with credit for 779.		
5712	Catalysis and Catalytic Processes	U G	3	5790	Modeling and Simulation	U G	3
	Kinetics of catalytic processes, mass transfer in catalysis, catalyst preparation and characterization, deactivation of catalysts, catalytic reactors, and application of catalytic phenomena in industrial processes.				Application of chemical and biomolecular engineering principles to construct mathematical models of processes and perform simulations.		
	Prereq: 3521 (522) and 3610 (610), or Grad standing. Not open to students with credit for 712.				Prereq: Jr, Sr, or Grad standing in CBE. Not open to students with credit for 790.		
5713	Fuel Cells and Catalysis	U G	3	6999	Thesis Research in Chemical and Biomolecular Engineering	G	1 - 15
	An introduction to fuel cells and related concepts with an emphasis on the catalytic phenomena involved in fuel cells.				Research for thesis.		
	Prereq: ChBE 3508, 3610 (610), 509, Chem 4310, or 531, or Grad standing, or permission of instructor. Not open to students with credit for 713.				Prereq: Grad standing. Repeatable. This course is graded S/U.		
5735	Cellular Nanotechnology	U G	3	8189	Teaching Mentorship in Chemical and Biomolecular Engineering	G	3
	Application of nanotechnology to cells for sensing and subcellular manipulation. Synthesis and biological modification of quantum dots and magnetic nanostructures, their unique material properties, and their application.				Expose students who are interested in academic careers to the classroom environment, while having minimal impact upon the overall course.		
	Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 735 or BiomedE 765. Cross-listed in BiomedE 5635.				Prereq: FABEng 7220 or 810; and at least 1 IA or TA experience.		
5761	Chemical and Biomolecular Engineering Processes	U G	3	8194	Group Studies in Chemical and Biomolecular Engineering	G	1 - 6
	Integration of fundamentals of chemistry, chemical engineering operations, thermodynamics, reaction kinetics and economics for optimum design and operation of chemical process plants.				Designed to give the student an opportunity to pursue special studies and topics not otherwise offered.		
	Prereq: Sr or Grad standing in CBE or Chem. Not open to students with credit for 761.				Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions.		
5765	Principles of Biochemical Engineering	U G	3	8781	Research Communications in Chemical and Biomolecular Engineering	G	2
	The application of biochemical engineering principles for modern bioprocesses and in the area of industrial biotechnology.				Analysis and critique of chemical and biomolecular engineering research literature. Training and practice in written and oral communication of research ideas.		
	Prereq: 2523 (523) or 3610 (610), or Grad standing, or permission of instructor. Not open to students with credit for 765.				Prereq: Grad standing. Not open to students with credit for 881.		
5766	Biotechnology and Bioprocess Engineering	U G	3	8799	Teaching Practicum in Chemical and Biomolecular Engineering	G	1 - 6
	Fundamentals of biotechnology and their applications to bioprocessing with emphasis on fermentation and bioseparation. Completion of Bio 1113 or 2100 is recommended.				Teaching and instructional development under faculty guidance in the chemical and biomolecular engineering curriculum.		
	Prereq: Jr standing in CBE, or permission of instructor. Not open to students with credit for 766.				Prereq: Grad standing. International students for whom English is not the first language must first become certified in English, either through the SPEAK or Mock Teaching Test. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.		

Chemical and Biomolecular Engineering 79

8801	Analysis of Chemical and Biomolecular Engineering Problems	G	3
Modern techniques for the theoretical analysis of chemical and biomolecular engineering problems.			
Prereq: Grad standing. Not open to students with credit for 801.			
8808	Advanced Thermodynamics I	G	3
Detailed discussion of the thermodynamic properties of pure compounds and mixtures; computational problem work emphasizes the application of thermodynamics in industrial problems.			
Prereq: 3508 (508), and Grad standing; or permission of instructor. Not open to students with credit for 808.			
8812	Advanced Kinetics I	G	3
Chemical engineering kinetics from the viewpoint of industrial chemical processes.			
Prereq: 2523 (523) and 3610 (610), and Grad standing; or permission of instructor. Not open to students with credit for 812.			
8815	Advanced Transport	G	3
Momentum and mass transfer theory at both the macroscopic and microscopic levels utilizing integral and differential conservation equations.			
Prereq: Grad standing in ChemEng, or permission of instructor. Not open to students with credit for 815.01 or 815.08.			
8895	Seminar in Chemical and Biomolecular Engineering	G	1
Formal lectures and discussion of state of the art research and development in chemical and biomolecular engineering.			
Prereq: Grad standing. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.			
8999	Dissertation Research in Chemical and Biomolecular Engineering	G	1 - 15
Research for dissertation purposes only.			
Prereq: Grad standing. Repeatable. This course is graded S/U.			

Chemical Physics

7998	Graduate Research	G	1 - 10
Laboratory and/or theoretical research on an individual basis on topics of current interest.			
Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 6 completions. This course is progress graded (S/U).			
7999	Masters Degree Research in Chemical Physics	G	1 - 12
Research for Masters thesis purposes only.			
Prereq: Permission of instructor. Repeatable. This course is progress graded (S/U).			
8880.01	Frontiers in Spectroscopy	G	1½ - 3
An overview of both fundamental and applied topics on the frontier of spectroscopy.			
Prereq: Physics 7501 (828), Chem 6510, or 862, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 6 completions. This course is progress graded (S/U).			
8880.02	Frontiers in Spectroscopy	G	1½ - 3
An overview of both fundamental and applied topics on the frontier of spectroscopy.			
Prereq: Physics 7501 (828), Chem 6510, or 862, or permission of instructor.			
8999	Research in Chemical Physics	G	1 - 12
Research for doctoral dissertation purposes only.			
Prereq: Permission of instructor. Repeatable. This course is progress graded (S/U).			

Chemistry

1100	Chemistry and Society	U	3
Terminology, methods, and principles of chemistry; examination of the roles of chemistry in our modern technological society.			
Prereq: Math 1050 (075 or 076) or an ACT math subscore of 22 or higher that is less than two years old, or satisfactory score on Ohio State Math Placement Test. Not open to students with credit for 1110 (101), 1210 (121), 1910H (201H), or 100, or any Chem course that uses these courses as prerequisites. GE nat sci phys course (BA in ASC only).			
1110	Elementary Chemistry	U	5
Introductory chemistry for non-science majors, including dimensional analysis, atomic structure, bonding, chemical reactions, states of matter, solutions, chemical equilibrium, acids and bases, along with topics in organic and biological chemistry.			
Prereq: Eligibility to enroll in Math 1116 (116). Not open to students with credit for 1210 (121), 1250, 1610 (161), 1910H (201H), or 102. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.			
1210	General Chemistry I	U	5
First course for science majors, covering dimensional analysis, atomic structure, the mole, stoichiometry, chemical reactions, thermochemistry, electron configuration, bonding, molecular structure, gases, liquids, and solids.			
Prereq: One unit of high school chemistry, and Math Placement Level L or M; or a grade of C- or above in Math 1130 (130), 1131 (131), 1148 (148), 1150 (150), or above. Not open to students with credit for 1220 (123), 1620 (162), 1920H (202H), 1250 (125), 1610, or 1910H (202H). This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.			

1220	General Chemistry II	U	5
Continuation of 1210 for science majors, covering solutions, kinetics, chemical equilibrium, solubility and ionic equilibria, qualitative analysis, thermodynamics, electrochemistry, descriptive chemistry, coordination compounds, and nuclear chemistry.			
Prereq: 1210, 1215, 1250, 1610 (162), 1910H (202H), or 122, and Math Placement Level L or M; or a grade of C- or above in Math 1130 (130), 1131 (131), 1148 (148), or 1150 (150), or above. Not open to students with credit for 1620 (163), 1920H (203H), 123, 2310, 2510 (251), 2610, or 2910H (251H). This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.			
1250	General Chemistry for Engineers	U	4
First course for engineering majors, covering dimensional analysis, atomic and molecular structure, the mole, stoichiometry, chemical reactions, states of matter, solutions, kinetics, equilibrium, acids and bases, thermodynamics, and electrochemistry.			
Prereq: One unit of high school chemistry, and Math Placement Level L or M; or a grade of C- or above in Math 1130 (130), 1131 (131), 1148 (148), or 1150 (150), or above. Not open to students with credit for 1210, 1610, 1910H, 125, 2310, 2510 (251), 2610, or 2910H (251H). This course is available for EM credit. GE nat sci phys course.			
1610	General Chemistry for Majors I	U	5
First course for chemistry and biochemistry majors, covering dimensional analysis, atomic structure, the mole, stoichiometry, chemical reactions, thermochemistry, electron configuration, bonding, molecular structure, gases, liquids, and solids.			
Prereq: One unit of high school chemistry, and Math Placement Level L or M; or a grade of C- or above in Math 1130 (130), 1131 (131), 1148 (148), or 1150 (150), or above, and enrolled in Chemistry or Biochemistry major; or permission of department. Not open to students with credit for 1210 (122), 1220 (123), 1250 (125), 1620 (162), 1910H (202H), or 1920H (202H). GE nat sci phys course. NS Admis Cond course.			
1612	Peer-led Team Learning for Chemistry 1610 Students	U	1
Provides a structure with which students can work actively in groups of 6 to 8 peers on challenging chemistry problems. This course will integrate with topics covered in Chemistry 1610. The activities will be challenging and relevant to course material and groups will work to discuss, collaborate, and answer questions in the activity.			
Concur: 1610. Not open to students with credit for 1220 (123), 1620 (162), 1920H (202H), or 1250 (125). This course is graded S/U.			
1620	General Chemistry for Majors II	U	5
Continuation of 1610 for science majors, covering solutions, kinetics, chemical equilibrium, solubility and ionic equilibria, qualitative analysis, thermodynamics, electrochemistry, descriptive chemistry, coordination compounds, and nuclear chemistry.			
Prereq: 1210, 1215, 1250, 1610, 1910H, 122, 125, 162, or 202H, and Math Placement Level L or M; or a grade of C- or above in Math 1130 (130), 1131 (131), 1148 (148), or 1150 (150), or above, and enrollment in Chemistry or Biochemistry major; or permission of department. Not open to students with credit for 1220, 1920H, 2310, 2510 (251), 2610, 2910H (251H), 123, 163, or 203H. GE nat sci phys course.			
1622	Peer-led Team Learning for Chemistry 1620 students	U	1
Provides a structure with which students can work actively in groups of 6 to 8 peers on challenging chemistry problems. This course will integrate with topics covered in Chemistry 1620. The activities will be challenging and relevant to course material and groups will work to discuss, collaborate, and answer questions in the activity.			
Concur: 1620. Not open to students with credit for 2510, 2610, or 2910H. This course is graded S/U.			
1910H	Honors General Chemistry I	U	5
Fundamental chemical principles and the chemistry of nonmetals for selected students.			
Prereq: ACT composite score of 30 or above, and ACT mathematics score of 30 or above, and ACT science reasoning score of 28 or above. Prereq or concur: Math 1141 or 1151 or above, or permission of instructor. Not open to students with credit for 1210 or 1610. GE nat sci phys course. NS Admis Cond course.			
1920H	Honors General Chemistry II	U	5
Continuation of Chem 1910H for selected students covering fundamental principles and the chemistry of metals.			
Prereq: 1910H (202H). Not open to students with credit for 203H, 1220 or 1620. GE nat sci phys course. NS Admis Cond course.			
2193	Individual Studies	U	1 - 5
A qualified student may conduct a minor investigation in chemistry.			
Prereq: Satisfactory courses in field of the problem and permission of instructor. Repeatable to a maximum of 15 or hrs or 5 completions. This course is graded S/U.			
2194	Group Studies	U	1 - 6
Designed for students to pursue special studies in chemistry.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 or hrs or 5 completions.			
2210	Analytical Chemistry I: Quantitative Analysis	U	5
Quantitative chemical analysis for chemistry majors; quantitative analysis of the elemental and molecular composition of complex systems.			
Prereq: 1220 (123), 1620 (163), or 1920H (203H), and Math Placement Level L, or a grade of C- or above in Math 1148 and 1149, or 1130 (130), 1131 (131), or 1150 (150), or above. Not open to students with credit for 2210H (221H). GE data analy course.			

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2210H Honors Analytical Chemistry I: Quantitative Analysis	U	5	
Honors version of quantitative chemical analysis for chemistry majors; quantitative analysis of the elemental and molecular composition of complex systems.			
Prereq: Honors standing, or permission of department or instructor; and 1220 (123), 1620 (163), or 1920H (203H), and Math Placement Level L, or a grade of C- or above in Math 1148 and 1149, or 1130 (130), 1131(131), or 1150 (150), or above. Not open to students with credit for 2210 (221). GE data only course.			
2310 Introductory Organic Chemistry	U	4	
A condensed presentation of organic chemistry organized by functional groups with an emphasis on practical applications.			
Prereq: 1110, 1220 (122), 1250 (125), 1620, or 1920H. Not open to students with credit for 2510 (251), 2610, or 2910H.			
2510 Organic Chemistry I	U	4	
Introduction to structure, nomenclature, physical properties, preparation and reactions of alkanes, alkenes, alkynes, alcohols, ethers, epoxides, aldehydes and ketones. Other topics include stereochemistry, acids, bases, and reaction mechanisms.			
Prereq: 1220 (123), 1620 or 1920H (203H). Not open to students with credit for 252.			
2520 Organic Chemistry II	U	4	
Continuation from 2510, including aromatic systems, carboxylic acids, carboxylic acid derivatives, amines, carbon-carbon bond-forming reactions, polymers, carbohydrates and amino acids.			
Prereq: 2510, 2610 (252) or 2910H (252H). Not open to students with credit for 2620 (253) or 2920H.			
2540 Organic Chemistry Laboratory I	U	2	
Introduction to spectroscopic characterization, scientific writing, computational chemistry, and the laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds.			
Prereq or concur: 2510, 2610 or 2910H.			
2550 Organic Chemistry Laboratory II	U	2	
Introduction to spectroscopic characterization, scientific writing, computational chemistry, and the laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds.			
Prereq: 2540 or 2540H. Prereq or concur: 2520, 2620 or 2920H.			
2610 Organic Chemistry for Majors I	U	4	
Introduction to structure, nomenclature, physical properties, preparation and reactions of alkanes, alkenes, alkynes, alcohols, ethers, epoxides, aldehydes and ketones. Other topics include stereochemistry, acids, bases, and reaction mechanisms.			
Prereq: 1220 (123), 1620 (163), or 1920H (203H); and Chemistry or Biochemistry major, or permission of Department. Not open to students with credit for 252.			
2620 Organic Chemistry for Majors II	U	4	
Continuation from 2610, including aromatic systems, carboxylic acids, carboxylic acid derivatives, amines, carbon-carbon bond-forming reactions, polymers, carbohydrates and amino acids.			
Prereq: 2510 (252), 2610, or 2910H; and Chemistry or Biochemistry major, or permission of Department. Not open to students with credit for 2520 (253), or 2920H.			
2910H Honors Organic Chemistry I	U	4	
Honors introduction to structure, nomenclature, physical properties, preparation and reactions of alkanes, alkenes, alkynes, alcohols, ethers, epoxides, aldehydes and ketones, including stereochemistry, acids, bases, and reaction mechanisms.			
Prereq: 1220 (123), 1620 (163), or 1920H (203H); Honors program or permission of department or instructor. Not open to students with credit for 2510, 2610, or 252H.			
2920H Honors Organic Chemistry II	U	4	
Continuation from 2910H, including aromatic systems, carboxylic acids, carboxylic acid derivatives, amines, carbon-carbon bond-forming reactions, polymers, carbohydrates and amino acids.			
Prereq: Honors standing, and 2910H (252H) or 252; or permission of department or instructor. Not open to students with credit for 2520, 2620, or 253H.			
2940H Honors Organic Chemistry Laboratory I	U	2	
Honors course for introduction to spectroscopic characterization, scientific writing, computational chemistry, and the laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds.			
Prereq or concur: Honors standing, and 2910H (252H), and permission of department or instructor. Not open to students with credit for 2540.			
2950H Honors Organic Chemistry Laboratory II	U	2	
Honors course for introduction to spectroscopic characterization, scientific writing, computational chemistry, and the laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds.			
Prereq: 2940H; Prereq or concur: 2920H; Honors program; or permission of department or instructor. Not open to students with credit for 2550.			
2990 Intro to Chemical Research	U	1	
A seminar course targeting chemistry majors focusing on the development of professional skills, conducting literature searches, writing research papers, and exploring careers and research options.			
Prereq: 1220, 1620, or 1920H, and English 1110.			
3510 Inorganic Chemistry	U	3	
Introduction to the principles of inorganic structure and bonding, including molecular symmetry, atomic structure, ionic bonding, coordination complexes, magnetic properties, thermodynamics and reactivity, bioinorganic chemistry, and nanoparticles.			
Prereq: 2520 (253), 2620 (253), or 2920H (253H), or permission of instructor. Not open to students with credit for 652.			
4193 Individual Studies	U	1 - 5	
A qualified student may conduct a minor investigation in chemistry.			
Prereq: Satisfactory courses in field of the problem and permission of instructor. Repeatable to a maximum of 15 cr hours or 5 completions. This course is graded S/U.			
4194 Group Studies	U	1 - 6	
Designed for students to pursue advanced special studies in chemistry.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.			
4200 Fundamentals of Physical Chemistry I	U	3	
The principles of physical chemistry for students in the biological sciences and for BA students majoring in chemistry.			
Prereq: Biology 1113; Math 1152 (153), 1172, 1181H, or 2162 (162); and Physics 1201 (113) or 1251 (133). Prereq or concur: Chem 2520 (253), 2620, or 2920H. Not open to students with credit for 4300 or 521 or Biochem 5721.			
4210 Fundamentals of Physical Chemistry II	U	3	
A continuation of 4200 for students in the biological sciences and for BA students majoring in chemistry.			
Prereq: 4200. Not open to students with credit for 4310.			
4300 Physical Chemistry I	U	3	
Quantum chemistry and chemical kinetics.			
Prereq: 2210 (221), 2510 (251), 2610, 2910H, or equiv, and Math 2153 (254), and Physics 1201 (113) or 1251 (133). Prereq or concur: Math 2255 (255). Not open to students with credit for 531.			
4310 Physical Chemistry II	U	3	
Statistical mechanics, thermodynamics, and thermodynamic equilibrium.			
Prereq: 4300. Not open to students with credit for 532.			
4410 Physical Chemistry Laboratory	U	3	
Quantitative measurements of chemical phenomena and the application of chemical principles to their interpretation. It is recommended that students complete 1 physical chemistry course before taking this course.			
Prereq or concur: 4200 (520) or 4300 (530). Not open to students with credit for 541.			
4550 Inorganic Chemistry Laboratory	U	2	
Preparation and characterization of inorganic compounds employing a variety of synthetic techniques.			
Prereq: 3510 (651), or an undergraduate degree with Chem major, or permission of instructor. Not open to students with credit for 755.			
4870 Analytical Chemistry II: Instrumental Analysis	U	3	
Applications of physico-chemical principles to problems in qualitative and quantitative chemical analysis.			
Prereq or concur: 4200 or 4300; or 520 or 530, and 541.			
4880 Instrumental Analysis Laboratory	U	2	
Laboratory applications of physico-chemical principles to instrumental analysis.			
Prereq or concur: 4870 (587), or permission of instructor. Not open to students with credit for 588.			
4998 Undergraduate Research	U	1 - 10	
Undergraduate research or creative activities in various topics.			
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 15 completions.			
4998H Honors Undergraduate Research	U	1 - 10	
Honors undergraduate research or creative activities in various topics.			
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 15 completions.			
4999 Undergraduate Thesis Research	U	1 - 10	
Undergraduate research or creative activities in various topics, culminating in a research thesis and oral defense.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions.			
4999H Honors Undergraduate Thesis Research	U	1 - 10	
Honors undergraduate research or creative activities in various topics, culminating in a research thesis and oral defense.			
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions.			
5193 Individual Studies	U G	1 - 10	
Individual Studies.			
Prereq: Permission of instructor. Repeatable.			
5194 Group Studies	U G	1 - 10	
Group Studies.			
Prereq: Permission of instructor. Repeatable.			

5230 Neurotransmitter Chemistry
U G 3

Come and explore the natural and unnatural organic molecules involved in neurotransmission. Through the study of synthetic strategies, mechanistic principles, and the structural requirements for biological activity, students will investigate the chemical world of endogenous molecules, pharmaceuticals, and drugs of abuse. Recommended prereqs: Chem 2550, and Biochem 4511 or 5613.

Prereq: 2520, 2620, or 2920H, and 2540; or Grad standing; or permission of instructor.

5240 Introduction to Protein Modeling
U G 3

This course provides a practical introduction to the theory and methods of molecular modeling and computational chemistry as it pertains to modeling large biological molecules such as proteins. Hands-on experience will be obtained by all attendees in doing molecular mechanics and modeling dynamic systems (molecular dynamics). Recommended prereq: Biochem 4511. Prereq: A grade of C or above in 2520, 2620, or 2920H; or Grad standing; or permission of instructor.

5420 Spectroscopy of Organic Compounds
U G 1½

Exploration of the use of spectroscopic techniques for the determination of the structure of organic molecules, including UV/vis, IR, NMR, and MS.

Prereq: 2520 (253), 2620 (253), or 2920H (253H), or equiv. Not open to students with credit for 632.

5430 Carbohydrate Chemistry
U G 3

Introduction to synthesis, conformation, and biological importance of carbohydrates and oligosaccharides, including nomenclature, protecting groups, glycoside synthesis, biosynthesis and biology, and NMR methods.

Prereq: 2520 (253), 2620, or 2920H (253H), or equiv.

5440 Introduction to Computational Chemistry
U G 3

Introduction to fundamental concepts in computational chemistry, including molecular modeling, molecular dynamics, and semi-empirical and ab initio calculations.

Prereq: 2520 (253), 2620 (253), or 2920H (253H), or equiv. Not open to students with credit for 644.

5450 Practical NMR Spectroscopy
U G 1

This course focuses on the application of NMR Spectroscopy to the structure determination and dynamics of primarily synthetic organic and organometallic products. The practical aspects of acquiring optimized, high-quality data are still beneficial for analysis of these spectra and will be presented as lectures and demonstrations.

Prereq: 5420, or permission of instructor.

5520 Nanochemistry
U G 3

Introduction to fundamental concepts of nanoscience, exploring strategies for complex assemblies of molecules and developing computational techniques for the investigation of nanotech structures.

Prereq: 1220 (123), 1620 (163), or 1920H (203H), and permission of instructor. Not open to students with credit for 611.

6050 Modeling Instruction in Chemistry
G 4

An inquiry-based course addressing both content learning and supporting pedagogy in chemistry instruction suitable for high school instructors implementing a modeling-based approach.

Repeatable to a maximum of 12 cr hrs.

6110 Survey of Instrumental Methods
G 1½

Introduction to instrumental analytical methods, including optical spectroscopy, mass spectrometry, surface spectrometry, microprobe methods, and separation science concepts relevant to chemical analysis. Not available for undergraduate credit.

6120 Analytical Data Treatment - Statistical and Numerical Analysis
G 1½

Principles and practice of data acquisition, processing, and analysis in chemical research. Prereq: 4870 (587) or equiv. Not open to students with credit for 720.

6310 Fundamentals of Coordination Chemistry
G 1½

Fundamental concepts of coordination chemistry, including properties, coordination number & isomerism, complex stability & the chelate effect, ligand substitution reactions, electron transfer, coordination chemistry & catalysis, magnetic phenomena.

6320 Synthetic Principles in Inorganic Chemistry
G 1½

Synthesis, structure, and application of electron counting rules to organometallic clusters. Synthesis and structure of main group and transition metal hydrides. Applications in catalysis. Prereq: 3510 or equiv, or permission of instructor. Not open to students with credit for 753.

6330 Group Theory and Bonding
G 1½

Introduction to groups and group representations, application to pi-bonding in organic molecules, molecular orbital theory, bonding in transition metal complexes, molecular vibrations, and electronic spectroscopy.

Prereq: 3510 or equiv, or permission of instructor. Not open to students with credit for 851.

6340 Physical Methods in Inorganic Chemistry
G 1½

Exploration of techniques for measuring structure and properties of small inorganic molecules and assemblies, including elemental composition, structural characterization, and physical properties.

Prereq: 3510 or equiv, or permission of instructor. Not open to students with credit for 752.

6410 Basic Organic Reaction Mechanisms
G 1½

Fundamental aspects of organic reaction mechanisms, including substitution & elimination reactions, alkene addition reactions, aromatic substitution, radical reactions, carbonyl chemistry, & pericyclic reactions. Not available for undergrad credit.

6420 Stereochemistry and Conformational Analysis
G 1½

Fundamental principles of stereochemistry, including stereoisomerism, enantiomer resolution, conformational analysis of C-C and C-heteroatom bonds, cyclic stereochemistry, the stereochemistry of dynamic processes, and stereoelectronic effects.

Prereq: 2520 (253), 2620 (253), 2920H, or equiv. Not open to students with credit for 730.

6430 Introduction to Organic Synthesis
G 1½

Principles and reactions in the synthesis of organic molecules, acidity and basicity, chemistry of carbonyl groups, oxidation and reduction, electrophilic and nucleophilic reagents, functional group interconversions, and protecting group chemistry.

Prereq: 2520, 2620, 2920H, or equiv. Not open to students with credit for both 832 and 833.

6440 Introduction to Physical Organic Chemistry
G 1½

Fundamental principles and concepts in physical organic chemistry, including structure and bonding, strain and stability, solvation and non-covalent interactions, acid-base chemistry, and methods for studying reaction mechanisms.

Prereq: 2520 (253), 2620 (253), 2920H, or equiv, and 4210 (521), 4310 (531), or equiv; or permission of instructor. Not open to students with credit for both 731 and 831.

6510 Quantum Mechanics and Spectroscopy
G 1½

Introduction to the fundamentals of quantum mechanics with applications to chemical dynamics and spectroscopy, suitable for graduate students and advanced undergraduates from all areas of chemistry. Not available for undergraduate credit.

6520 Thermodynamics
G 1½

Fundamental aspects of chemical thermodynamics, including spontaneous change, 1st, 2nd, and 3rd laws of thermodynamics, free energy, and thermochemical calculations.

Prereq: 4310 (532) or equiv. Not open to students with credit for 775.

6530 Kinetics
G 1½

Description of the rate of chemical reactions, including rate equations, mechanism, and transition state theory.

Prereq: 4310 (532) or equiv. Not open to students with credit for 775.

6540 Introduction to Electronic Structure
G 1½

Introduction to electronic structure of atoms and molecules, and quantum-chemical calculations, including self-consistent field methods, molecular orbital theory, density functional theory, and other methods for describing electron correlation.

Prereq: 4310 or equiv. Not open to students with credit for 866.

6550 Atmospheric Chemistry
G 3

Chemistry of the lower atmosphere, including air pollution and climate change, chemistry and kinetics of atmospheric oxidants, heterogeneous chemical mechanisms, tropospheric and stratospheric gas and particulate phases relative to ozone depletion. 231 or 251 recommended.

Prereq: 1220 (123), 1620, 1920H, or equiv, and 4200, 4300, or equiv. Not open to students with credit for 641.

6780 Faculty Research Presentations
G 1

Presentation of faculty research programs and projects to incoming doctoral students. Not available for undergraduate credit.

This course is graded S/U.

6781 Laboratory Safety
G 1

Principles of safety in the chemical laboratory.

Prereq: Not open to students with credit for 685. This course is graded S/U.

6782 Ethics in Scientific Research
G 1

An examination of the ethical principles operative in modern scientific research.

This course is graded S/U.

7120 Electrochemistry
G 3

Electrochemical methods for trace analysis of species, including current/voltage relationships based on activation and diffusion control, electrode kinetics, and reaction mechanisms.

Prereq: Not open to students with credit for 821.

7130 Fundamentals and Techniques of Separation Science
G 3

Introductory course in analytical separation science: principles of chromatographic and electrophoretic processes.

Prereq: Not open to students with credit for 822.

7140 Analytical Spectroscopy
G 3

Principles for measurement of interactions of electromagnetic radiation with matter, including classical & quantum mechanical principles, group theory, and principles and applications of atomic and molecular spectroscopy.

Prereq: Not open to students with credit for 823.

7150 Mass Spectrometry
G 3

Advanced course on modern mass spectrometric methods and applications to chemical and biological sciences.

Prereq: Not open to students with credit for 825.

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7160 Nuclear Magnetic Resonance Spectroscopy	G	3	7540 Chemical Dynamics	G	3			
Introduction to NMR spectroscopy for structural studies including nuclear magnetic resonance spectroscopy in the context of chemical and biochemical structural studies.								
Prereq: Not open to students with credit for 824.								
7230 Chemical Biology	G	1½	7550 Statistical Thermodynamics	G	3			
Graduate-level treatment of the fundamentals of chemical biology, including enzymes, drug and probe design, diversification methodology, and proteomics.								
7320 Organometallic Chemistry	G	1½	Treatment of equilibrium & non-equilibrium stat mech, including fundamentals, statistical basis of thermodynamics, partition functions, thermal behavior of atoms & molecules, free energy, time-dependent stat mech, and linear response theory.					
Prereq: Not open to students with credit for 880.								
7330 Solid State Chemistry	G	1½	7580 Lasers, Optics, and Optical Instrumentation	G	3			
Structures of extended solids, including defects and phase diagrams and phase transitions.								
Prereq: Not open to students with credit for 754.								
7340 Diffraction Methods	G	1½	Fundamentals of lasers, optics, and optical instrumentation used in modern experimental research in chemistry and physics including: lasing and gain, pulse generation, geometric and Gaussian optics, spatial modes, and detection.					
Exploration of techniques and application for determination of solid state structures, including X-ray absorption and diffraction methods, neutron diffraction methods, single crystal structure determination, and powder diffraction.								
7350 Inorganic Photochemistry	G	1½	7590 Molecular Simulation of Materials	G	3			
Fundamental aspects of molecular photophysical processes, including energy and electron transfer, photochemistry of inorganic complexes, and applications.								
7360 Bioinorganic Chemistry	G	1½	Advanced theoretical foundation and techniques for molecular dynamics and Monte Carlo simulation of condensed phases, including interaction models, dynamical foundations, equilibrium properties, biological systems, and transport coefficients.					
Prereq: Permission of instructor. Not open to students with credit for 996.								
7370 Nanochemistry and Nanomaterials	G	1½	8199 Advanced Topics in Analytical Chemistry	G	1½ - 3			
Advanced study of nanostructures and nanomaterials, including the basic physics for nanoscience and nanotechnology, synthesis and self-assembly, and nanotechnology in energy conversion and storage.								
7380 Inorganic Materials	G	1½	Advanced, specialized topics in Analytical Chemistry.					
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions.								
Prereq: Not open to students with credit for 754.								
7430 Advanced Organic Synthesis	G	1½	8399 Advanced Topics in Inorganic Chemistry	G	1½ - 3			
Advanced aspects of organic synthesis/synthetic design, including advanced carbocation chemistry, synthesis of alkenes, special topics in oxidations and reductions, nucleophilic reagents, pericyclic and dipolar reactions, and free radical chemistry.								
Prereq: 6430.								
7440 Kinetics, Catalysis, and Transition State Theory	G	1½	8499 Advanced Topics in Organic Chemistry	G	1½ - 3			
Principles of kinetics, including energy surfaces and transition state theory, rate equations and rate constants, isotope effects, linear free energy relationships, and catalysis for the study of the chemical reactions of organic molecules.								
Prereq: 6440.								
7450 Metals in Organic Synthesis	G	1½	8599 Advanced topics in Physical Chemistry	G	1½ - 3			
Organometallic complexes in organic synthesis, including organotransition metal chemistry and homogeneous catalysis and the chemistry of organic complexes of B, Cu, low valent Zr and Ti, Pd, Ni, Ru, and Mo.								
Prereq: 7430. Not open to students with credit for 832 or 833.								
7460 Advanced Organic Reaction Mechanisms	G	1½	8699 Advanced Topics in Theoretical Chemistry	G	1½ - 3			
Advanced study of physical aspects of reactions of organic compounds, including addition and elimination reactions, substitution reactions, photochemical reactions, and quantum mechanical approaches to chemical bonding.								
Prereq or concur: 7440. Not open to students with credit for 831.								
7470 Computational Chemistry	G	1½	8891 Analytical Chemistry Seminar	G	1			
A practical and theoretical treatment of advanced computational chemistry, from molecular mechanics to electronic structure methods and with an examination of the application of computational methods for providing guidance to experimental studies.								
Prereq: Permission of instructor. Not open to students with credit for 944.								
7520 Advanced Molecular Quantum Mechanics and Spectra	G	3	8892 Biochemistry Seminar	G	1			
Advanced study of the quantum mechanics of atoms and molecules, including quantum postulates and operators, time evolution, perturbation theory and variational methods, calculation of matrix elements, representations, and multiplet theory.								
Prereq: Not open to students with credit for 862 or 863.								
7530 Spectra and Structure of Molecules	G	3	8893 Inorganic Chemistry Seminar	G	1			
Application of quantum mechanics to the description and interpretation of molecular spectroscopic data, with an emphasis on the spectra of polyatomic molecules.								
Prereq: Not open to students with credit for 863 or 866.								
8894 Organic Chemistry Seminar	G	1	8895 Physical Chemistry Seminar	G	1			
Seminar in Organic Chemistry.								
Repeatable to a maximum of 14 cr hrs. This course is graded S/U.								
8896 Departmental Seminar	G	1	8897 Seminar on Topics in Chemistry and Biochemistry	G	1			
Seminars on topics of interest in chemistry and biochemistry.								
Repeatable to a maximum of 14 cr hrs. This course is graded S/U.								
8899 Doctoral Seminar	G	1	8998 Non-thesis Research	G	1 - 15			
Seminar presented by post-candidacy doctoral students on thesis/dissertation research.								
Prereq: Post-candidacy graduate standing, and permission of instructor. Repeatable to a maximum of 2 cr hrs.								
8999 Thesis/Dissertation Research	G	1 - 15	8999 Graduate Research	G	1 - 15			
Graduate research for thesis or dissertation.								
Repeatable. This course is graded S/U.								

Chinese

1101.01 Level One Chinese I: Classroom Track

U 4

Mandarin Chinese spoken communication and writing system. Classroom Track. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Au Sem. Prereq: Not open to students with credit for 101 and 102. This course is available for EM credit. GE for lang course.

1101.02 Level One Chinese I: Summer Intensive Track

U 4

Mandarin Chinese spoken communication and writing system. Summer Intensive Track. Admission to SPEAC is required for registration. Students must complete 4 cr hrs during the first 3.5 weeks of the summer session. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: Admission to SPEAC program. Not open to students with credit for 101 or 102. This course is available for EM credit. GE for lang course.

1101.51 Level One Chinese I: Individualized Track

U 1 - 4

Mandarin Chinese spoken communication and writing system. Individualized Track. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Au, Sp, Su Sem. Prereq: Not open to students with credit for 101 and 102. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course.

1102.01 Level One Chinese II: Classroom Track

U 4

Continuation of 1101.01. Classroom Track. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: 1101.01 or 1101.02, or 4 cr hrs of 1101.51, or permission of instructor. Not open to students with credit for 102. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102.02 Level One Chinese II: Summer Intensive Track

U 4

Continuation of 1101.02. Summer Intensive Track. Admission to SPEAC is required for registration. Students must complete 4 credits during the second 3.5 weeks of the summer session. Not open to native speakers of this language or to students with 3 or more years of study in this language in high school.
Prereq: 1101.01 or 1101.02, or 4 cr hrs of 1101.51, or permission of instructor; and admission to SPEAC program. Not open to students with credit for 1102 (102). This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102.51 Level One Chinese II: Individualized Track

U 1 - 4

Continuation of 1101.51. Individualized Track. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: 1101.01 or 1101.02, or 4 cr hrs of 1101.51, or permission of instructor. Not open to students with credit for 1102 (102). Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.01 Level Two Chinese I: Classroom Track

U 4

Mandarin Chinese second level spoken communication, development of reading skills, and written composition. Classroom Track. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: 1102.01 or 1102.02, or 4 sem cr hrs of 1102.51, or permission of instructor. Not open to students with credit for 1103 or 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.51 Level Two Chinese I: Individualized Track

U 1 - 4

Mandarin Chinese second level spoken communication, development of reading skills, and written composition. Individualized Track. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: 1102.01 or 1102.02, or 4 cr hrs of 1102.51, or permission of instructor. Not open to students with credit for 1103 or 104. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

2102 Level Two Chinese II: Classroom Track

U 5

Continuation of 1103. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Sp Sem. Prereq: 1103. Not open to students with credit for 2102 (205 and 206). This course is available for EM credit. FL Admis Cond course.

2141.01 Intensive Level Two Chinese-Oral: Classroom Track

U 4

First course in the sequence of intensive intermediate Chinese language courses focusing on speaking and listening. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Au Sem. Prereq: 1102.01 or 1102.02, or 4 cr hrs in 1102.51, or permission of instructor. Not open to students with credit for 1103.xx, 2141.02 , 210, 210.02, 310, or 310.02. This course is available for EM credit. GE for lang course. FL Admis Cond course.

2141.02 Intensive Level Two Chinese-Oral: Summer Intensive Track

U 4

First course in the sequence of intensive intermediate Chinese language courses focusing on speaking and listening. Admission to SPEAC is required for registration. Students must complete 4 credits during first 3.5 weeks fo the summer session. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: 1102.01 or 1102.02, or 4 cr hrs for 1102.51, or permission of instructor. Not open to students with credit for 1103 (210) or 2141 (310). This course is available for EM credit. GE for lang course. FL Admis Cond course.

2151.01 Intensive Level Two Chinese-Written: Classroom Track

U 5

First in the sequence of intensive intermediate Chinese language courses focusing on written Chinese. Classroom track.
Au sem. Prereq: 1102.01 or 1102.02, or 4 cr hrs for 1102.51, or permission of instructor. Not open to students with credit for 1103 (211) or 2151 (311.01). This course is available for EM credit. FL Admis Cond course.

2151.51 Intensive Level Two Chinese-Written: Individualized Track

U 1 - 5

First in the sequence of intensive intermediate Chinese language courses focusing on written Chinese. Individualized track. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.

Au, Sp, Su. Prereq: 1102.01 or 1102.02, or 4 cr hrs for 1102.51, or permission of instructor. Not open to students with credit for 1103 (211) or 2151 (311). Repeatable to a maximum of 5 cr hrs or 5 completions. This course is available for EM credit. FL Admis Cond course.

2231 Traditional Chinese Culture

U 3

Chinese institutions, philosophical trends, religion, literature, and visual and performing arts prior to the 20th century.

Prereq: Not open to students with credit for 231. GE cultures and ideas and diversity global studies course.

2232 Modern Chinese Culture

U 3

Modern Chinese culture as reflected in family life, language, literature, art, and film viewed from the perspective of modern Chinese history. Taught in English.

Prereq: Not open to students with credit for 232. GE cultures and ideas and diversity global studies course.

2283 Chinese Calligraphy

U 3

Techniques of writing Chinese characters with a brush; practice in different styles from oracle bone to grass; introduction to its importance in the Chinese culture, and its relationship with Chinese philosophy, poetry, and painting.

Prereq: Not open to students with credit for 283.

2451 Chinese Literature in Translation

U 3

Representative masterpieces of pre-modern Chinese literature in English translation, including poetry, prose, fiction, and/or drama.

Prereq: Not open to students with credit for 251. GE lit and diversity global studies course.

2797.01 Study Abroad in China

U 3

The China Gateway Study Abroad Program introduces the dynamic nature of an important segment of contemporary Chinese culture by combining the themes of Ethnic Diversity and the Environment in Southwest China. The tandem themes are designed to allow students to experience a diverse and dynamic mix of ethnic, rural, and urban cultures in a historic and geographically varied region of China.
GE education abroad course.

4101 Level Three Chinese I

U 5

Continued study of spoken communication, reading Chinese publications, and development of written composition.

Au Sem. Prereq: 2102, or permission of instructor. Not open to students with credit for 507 or 508. This course is available for EM credit. FL Admis Cond course.

4102 Level Three Chinese II

U 5

Continuation of 4101.

Sp Sem. Prereq: 4101, or permission of instructor. Not open to students with credit for 508 or 509. This course is available for EM credit. FL Admis Cond course.

4142.01 Intensive Level Three Chinese-Oral: Classroom Track

U 5

Continuation of 2141.01.

Sp Sem. Prereq: 2141.01 or 2141.02, or permission of instructor. Not open to students with credit for 310 and 510.01. This course is available for EM credit. FL Admis Cond course.

4142.02 Intensive Level Three Chinese-Oral: Summer Intensive Track

U 5

Continuation of 2141.02. Summer Intensive Track. Admission to SPEAC is required for registration. Students must complete 5 credits during the second 3.5 weeks of the Summer Session.

Prereq: 2141.01 or 2141.02, or permission of instructor. Not open to students with credit for 310 and 510.02. This course is available for EM credit. FL Admis Cond course.

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4152.01	Intensive Level Three Chinese-Written: Classroom Track	U	5	4998H	Honors Undergraduate Research Project	U	3
Continuation of 2151.01.				Focused research toward completion of an original project.			
Sp Sem. Prereq: 2151.01, or 4 cr hrs or 2151.51, or permission of instructor. Not open to students with credit for 311.01, 511.01, 5 qtr cr hrs of 311.51, or 5 qtr cr hrs of 511.51. This course is available for EM credit. FL Admis Cond course.				Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
4152.51	Intensive Level Three Chinese-Written: Individualized Track	U	1 - 5	4999	Undergraduate Research Thesis	U	3
Continuation of 2151.51. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement.				Focused research toward completion of an original thesis.			
Au, Sp, Su Sems. Prereq: 2151.01, or 4 cr hrs for 2151.51, or permission of instructor. Not open to students with credit for 311 or 511. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is available for EM credit. FL Admis Cond course.				Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
4193	Individual Studies	U	1 - 3	4999H	Honors Undergraduate Research Thesis	U	3
Directed study to meet individual research needs of students in Chinese studies. Not a substitute for regular language courses.				Focused research toward completion of an original thesis.			
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.				Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
4194	Group Studies	U	1 - 3	5101.01	Level Four Chinese I: Classroom Track	U G	3
Group investigation of issues in Chinese studies. Varying topics.				Level Four Chinese; continuation of 4102, or 4142 and 4152. Classroom Track.			
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.				Au Sem. Prereq: 4152.01; and 4102 or 4142.01 or 4142.02 or 4 cr hrs for 4152.51, or permission of instructor. Not open to students with credit for 610 and 611.01. This course is available for EM credit. FL Admis Cond course.			
4301	Conversational Cantonese for Mandarin Speakers I	U	3	5101.51	Level Four Chinese I: Individualized Track	U G	1 - 3
A conversational Cantonese language course for speakers of Mandarin, and is open to both advanced learners and native speakers of Mandarin Chinese. The course develops basic skills in speaking and listening comprehension for functioning in everyday, Cantonese-speaking environments. Not open to native speakers of Cantonese, or to students with 2 or more years of study in Cantonese in high school.				Level Four Chinese; continuation of 4102, or 4142 and 4152. Individualized Track. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement.			
Prereq: 4301, or equiv knowledge of conversational Cantonese.				Prereq: 4152.01; and 4102 or 4142.01 or 4142.02 or 4 cr hrs for 4152.51, or written permission of instructor. Not open to students with credit for 610 or 611.51. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is available for EM credit. FL Admis Cond course.			
4302	Conversational Cantonese for Mandarin Speakers II	U	3	5102.01	Level Four Chinese II: Classroom Track	U G	3
The second semester of conversational Cantonese language for speakers of Mandarin, and is open to both advanced learners and native speakers of Mandarin Chinese. The course develops basic skills in speaking and listening comprehension for functioning in everyday, Cantonese-speaking environments. Not open to native speakers of Cantonese, or to students with 2 or more years of high school Cantonese.				Level Four Chinese: continuation of 5101.01.			
Prereq: 4301, or equiv knowledge of conversational Cantonese.				Sp Sem. Prereq: 5101.01, or 3 cr hrs for 5101.51, or permission of instructor. Not open to students with credit for 611 or 612.01. This course is available for EM credit. FL Admis Cond course.			
4380	The Chinese Language	U	3	5102.51	Level Four Chinese II: Individualized Track	U G	1 - 3
Important elements of the Chinese language – its structure, dialects, writing system – as well as history of the language, language acquisition, language planning, and language use in society; taught in English.				Level Four Chinese: continuation of 5101.51. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement.			
Prereq: 1102 or equiv, or permission of instructor. Not open to students with credit for 580.				Au, Sp, Su Sems. Prereq: 5101.01, or 3 cr hrs for 5101.51, or permission of instructor. Not open to students with credit for 611 and 612. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is available for EM credit. FL Admis Cond course.			
4381	The Chinese Language and Its History	U	3	5103	Level Five Chinese I	U G	3
Examination of the history and development of the Chinese language over the millennia; topics include language change (sound changes, lexical changes), dialect formation, and language reform; taught in English.				Level five Chinese first semester. Immersion in all four skills using the novel and TV series "Spring Grass" by Qiu Shanshan. Covers 1st half of book and TV series. Focuses on oral narration skills. Chinese only.			
Prereq: 1102 or equiv, or permission of instructor.				Prereq: 5102 or equiv. This course is available for EM credit.			
4383	The Chinese Language and Its Script	U	3	5104	Level Five Chinese II	U G	3
Examination of the Chinese script, covering its origin, classification, composition, and development, as well as such topics as standardization, script reform, romanization, and internet language; taught in English.				Level five Chinese second semester. Completing the novel and TV series "Spring Grass"; focus on written composition skills. Chinese only. Completion of this class (or equivalent) required for taking master's level Chinese language classes.			
Prereq: 1102 or equiv, or permission of instructor.				Prereq: 5103 or equiv. This course is available for EM credit.			
4402	Traditional Chinese Fiction in Translation	U	3	5105.51	Selected Readings in Scholarly Chinese Texts I: Individualized Track	U G	1 - 3
Examines novels and short stories from the Ming and Qing dynasties. Taught in English.				Academic writings by modern Chinese scholars in both Wenyuan and Baihua styles.			
Prereq: Not open to students with credit for 502. GE lit and diversity global studies course.				Prereq: 5102.01 or 5102.51, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 4 completions.			
4403	Modern Chinese Literature in Translation	U	3	5106.51	Selected Readings in Scholarly Chinese Texts II: Individualized Track	U G	1 - 3
Chinese fiction and/or drama from the late 19th century to the present. Taught in English.				Continuation of 5105.01 or 5105.51. Academic writings by modern Chinese scholars in both Wenyuan and Baihua styles.			
Prereq: Not open to students with credit for 503. GE lit and diversity global studies course.				Prereq: 5105.01 or 5105.51, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 4 completions.			
4404	Chinese Drama	U	3	5111	Classical Chinese I	U G	3
Representative works of Chinese drama in translation, taught with a focus either on premodern drama or on modern drama, depending on the instructor's area of interest and expertise. Taught in English.				Analysis of selected texts in classical Chinese from pre-Qin times.			
Prereq: Not open to students with credit for 504. GE lit and diversity global studies course.				Prereq: Level Two Chinese or equiv, or permission of instructor. Not open to students with credit for 601 and 602.			
4405	China in Chinese Film	U	3	5112	Classical Chinese II	U G	3
An overview of Chinese cinema, with a focus on how film represents issues of nationhood, national identity, and national trauma. Taught in English, no Chinese required.				Continuation of 5111. Close reading of selected texts from pre-Qin and later times.			
Prereq: English 1110 or equiv. Not open to students with credit for 505. GE VPA and diversity global studies course.				Prereq: 5111, or equiv and permission of instructor. Not open to students with credit for 602 and 603.			
4406	China Pop: Contemporary Popular Culture and Media in Greater China	U	3	5194	Und/Grad Group Studies	U G	1 - 3
Introduces students to contemporary popular culture and media from Greater China, encouraging independent research and critical discussion of topics covered.				Group investigation of issues in Chinese studies designed for a mix of undergraduate and graduate students.			
Prereq: Not open to students with credit for 506.				Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.			
4998	Undergraduate Research Project	U	3	5380	Introduction to Chinese Linguistics	U G	3
Focused research toward completion of an original project.				Investigation of the phonology, morphology, syntax, semantics, lexicon, and writing system of the Chinese language; and exploration of some topics relating language to cognition, society, and gender.			
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.				Prereq: Permission of instructor. Not open to students with credit for 680.			

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5381 History of the Chinese Language	U G 3	7382 Chinese Phonology	G 3
Investigation of the history of the Chinese language from its early stages to modern forms. Prereq: 6380, or permission of instructor. Not open to students with credit for 681.			
5383 The Chinese Writing System	U G 3	7386 Chinese Semantics	G 3
Origin, classification, composition, and development of the Chinese writing system; exploration of related topics such as language reform, reading and processing of Chinese characters. Prereq: 6380, or permission of instructor. Not open to students with credit for 683.			
5387 Bilingualism in the Chinese Contexts	U G 3	7463 Modern Chinese Fiction	G 3
Introduction to the sociolinguistic study of bilingualism (including multilingualism) and the qualitative study of biculturalism involving the Chinese language and culture. Topics to be covered include lexical borrowing and innovations, code switching, bilingual education, bilingualism in (new) media, language acquisition, language attitudes, language maintenance and loss. Prereq: 5380, or permission of instructor.			
5389 Topics on the Chinese Language	U G 3	7466 Lu Xun	G 3
Exploration of topics and issues concerning the Chinese language -- language and society, language and politics, language and gender, language and identity, bilingualism, languages of China; taught in English. Prereq: 1102 or equiv, or permission of instructor. Repeatable to a maximum of 3 cr hrs.			
5400 Performance Traditions of China	U G 3	7468 Chinese Film	G 3
Introduction to the panorama of oral and orally-connected performance traditions of China; explores local traditions of professional storytelling, epic singing, folksongs, and local drama. Prereq: 2231, 2232, 2451, 2452, EALL 1231, Japanese 2231, 2451, 2452, Korean 2231, 2451, or permission of instructor. Not open to students with credit for 600.			
5474 Chinese Opera	U G 3	7470 Ethnic Literature and Culture in China	G 3
Introduction to Chinese opera as traditional culture, dramatic literature, and performing art; selected opera scripts and stage performances from Beijing opera, Kunqu, and regional operas; illustrated discussions of various aspects of the theater. Prereq: Not open to students with credit for 674.			
5490 Chinese Translation Workshop	U G 1 - 4	7615 Chinese Perspectives on Chinese Civilization	G 3
Investigation of problems and techniques of translating Chinese into English. Prereq: 4102 or 5112, or permission of instructor. Repeatable to a maximum of 8 cr hrs or 2 completions.			
5670 Literary Language in Modern Mandarin	U G 3	7617 Analysis of Contemporary Chinese Media	G 3
Level seven Chinese. Use of literary Chinese in modern speech and writing. Chinese only. Prereq: Permission of Instructor. This course is available for EM credit.			
5798.02 Study Tour: Foreign	U G 8 - 24	7650 Negotiating in Chinese Culture	G 3
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Repeatable for different titled study tours only. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 3 completions.			
6193 Individual Studies	G 1 - 3	7655 Language in China	G 3
Directed study to meet individual research needs of students in Chinese studies. Not a substitute for regular language courses. Prereq: 4102 or 5112, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			
6194 Group Studies	G 1 - 3	7660 Interpersonal Relations and Professional Networking	G 3
Group investigation of issues in Chinese studies. Varying topics. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.			
6451 History of Chinese Literature I	G 3	7671.51 Familiarity with Domain Resources and Research	G 5
Chinese literature from antiquity to the end of the Tang dynasty; various aspects of the classical tradition and new developments in the Age of Disunity. Taught in English. Partial texts in Chinese optional. Prereq: Written permission of instructor for undergrads. Not open to students with credit for 651.			
6452 History of Chinese Literature II	G 3	7672.51 Domain Research and Presentation of a Project	G 5
Chinese literature from the Five Dynasties to the Qing: poetry, prose, drama, and the rise of vernacular writings. Taught in English. Partial texts in Chinese optional. Prereq: Written permission of instructor for undergrads. Not open to students with credit for 652.			
6453 Classical Chinese Literature in Modern China	G 3	8500 Chinese Bibliography and Research Methods	G 3
Examines adaptations and uses of classical Chinese literature (novels, plays, poems, prose) in the modern Chinese-speaking world. Prereq: Written permission of instructor for undergrads. Not open to students with credit for 653.			
6998 Research in Chinese: Project	G 1 - 3	8897 Departmental Seminar	G 1 - 3
Research leading to the completion of a project other than a conventional MA thesis. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.			
6999 Research in Chinese: Thesis	G 1 - 3	8998 Research in Chinese: Project	G 1 - 3
Research leading to the completion of an MA thesis. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			

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8999 Research in Chinese: Dissertation

G 1 - 3

Research leading to the completion of a dissertation.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 8 completions. This course is graded S/U.

City and Regional Planning

1100 CRP Survey

U 1

Introduction to the University, the Knowlton School of Architecture and the professions of architecture, city and regional planning, and landscape architecture.

Prereq: Not open to students with credit for 1100, 100, Arch 1100 (100), 1100E, 100H, LArch 1100 (100), 1100E, or any survey course. Cross-listed in Arch and LArch.

2000 Introduction to City and Regional Planning

U 3

How transportation, housing, and land use work together to create vibrant cities and regions. Prereq: Not open to students with credit for 310.

2100 Reading the City through History and Law

U 3

An intensive investigation of cities' complex cultures and societal rules and the role of history and law in shaping their development.

Prereq: Not open to students with credit for 210 and 350.

2110 Creating Innovative Cities and Regions

U 3

Successful cities rely on innovation to keep them forward-moving. Emerging trends and unmet market needs are studied to generate innovative planning solutions.

Prereq: Not open to students with credit for 2110H or 110.

2200 Sustainable Infrastructure Planning

U 3

Beneath the streets is a whole system of infrastructure that requires sustainable planning.

2210 Sustainable Urbanism

U 3

Globalization is changing cities, economies, social networks, and the environment.

Technological innovation, entrepreneurship, and policy making guides the future of sustainable cities.

Prereq: Not open to students with credit for 2210E.

2210E Sustainable Urbanism

U 3

Globalization is changing cities, economies, social networks and the environment.

Technological innovation, entrepreneurship and policy making guides the future of sustainable cities.

Prereq: Honors standing. Not open to students with credit for 2210.

2600 Designing Communication for Planning

U 4

Graphic tools and techniques used for effective visual communication in planning. Projects focus on creative problem solving to communicate planning to a mass audience.

2700 Technology in Design

U 1 - 5

Software tools, information theory, and technology to aid in preparing for the professional planning workplace.

Repeatable to a maximum of 20 cr hrs or 4 completions.

2798 Comparative Studies in Planning

U 3

Planning issues are global in context. Through direct experience studying globalization, migration, sustainability, and public participation, critically understand planning on a global and community scale.

Repeatable to a maximum of 9 cr hrs.

3000 Planning Resilient Environments

U 3

Environmental resilience requires a comprehensive planning approach. Through planning techniques and practices, identify practical applications for creating resilient environments.

Prereq: Math 1148 (148), or permission of instructor. Not open to students with credit for 745 or 722.

3100 Analyzing the City

U 3

Spatial, economic, and demographic tools aid in forecasting the future of cities and regions. These tools serve as a foundation for imagining the future.

Prereq: 3000, Econ 2001.01, and Math 1118 (117), 1131, 1151, or above; or permission of instructor. Not open to students with credit for 3100H.

3150 Digital Design and Analysis for Planners

U 2

Basic principles of computer drafting and Geographic Information Systems (GIS) and their application in the professional planning office for the purpose of design, analysis, and representation of the built environment.

3194 Group Studies in City and Regional Planning

U 1 - 15

Group-based study of city and regional planning topics within the frame of an instructor guided course.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

3200 Place Making

U 4

Vibrant public places and sustainable communities are realized when planners visualize and understand spatial relationships at the site, neighborhood and community level.

Prereq: 1100 (110), 1100E, 2000 (310), 2110, 2110E, Arch 1100 (100), 1100E, 100H, LArch 1100 (100), or 1100E, or permission of instructor. Not open to students with credit for 3200E or 330.

3200E Place Making

U 4

Vibrant public places and sustainable communities are realized when planners visualize and understand spatial relationships at the site, neighborhood and community level.

Prereq: Honors standing, and 1100 (110), 1100E, 2000 (310), 2110, 2110E, Arch 1100 (100), 1100E, 100H, LArch 1100 (100), or 1100E; or permission of instructor. Not open to students with credit for 3200 (330).

3300 Planning for and with People

U 3

Application of skills and techniques of community participation, emphasizing education, group formation and dynamics, consultation, engagement, and creative change within groups.

Prereq: 2000 (310), 2110 (110), or 2110H (110H), or permission of instructor.

3400 Planning for Sustainable Economic Development

U 3

Understand the intersection of economics, the environment, and development in order to use planning tools to promote sustainable economic development.

Prereq: Econ 2001.01, 2001.02 (200), 2001.03H, or AEDEcon 2001.

3500 The Socially Just City

U 3

Too many cities are split between the haves and the have-nots. Explore how to reduce poverty, increase access to public services, and create a high quality of life for all residents. GE soc sci orgs and polities and diversity soc div in the US course.

3510 Murder by Design

U 3

The way cities are designed influences criminal activity. Crime mapping, siting of businesses, and neighborhood design are explored to create safescapes.

Prereq: Jr standing.

3520 Planning Ethics

U 1

Planners work in complicated environments that can result in ethical and moral dilemmas. The planning code of ethics provides a framework for decision making.

Prereq: Jr standing.

3600 Land Development Planning

U 3

Planners shape cities. The land development process requires understanding the impacts of new development and redevelopment in order to reimagine more vibrant sites.

Prereq: Not open to students with credit for 745 or 780.

3610 Sex and the City

U 3

Explores sex in the city, examining spaces, institutions, and policies that influence sex as a land use.

3620 The Underground City

U 3

If the surface of the Earth became uninhabitable, people could be forced to live underground to survive. A plan will be conceived and developed in order to perpetuate the human race.

Prereq: 3000.

4110 Transportation and Land Use Planning

U 3

Communities integrate transportation while promoting economic development and land-use policies to manage growth. Improve the efficiency of travel and contain infrastructure costs.

Prereq: 2110 (110), 2110H, 2000, or 310. Not open to students with credit for 774.

4191S Planning Internship

U 1

Internship seminar providing students with an opportunity to reflect and learn about career opportunities in city and regional planning.

Prereq: Permission of instructor. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

4193 Independent Studies in City and Regional Planning

U 1 - 15

Study a specialized topic in city and regional planning with an instructor based on mutual interests.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

4194 Group Studies in City and Regional Planning

U 1 - 15

Group-based study of city and regional planning topics within the frame of an instructor guided course.

Prereq: Jr or Sr standing. Repeatable to a maximum of 15 cr hrs or 4 completions.

4200 Arts and Entertainment Planning

U 3

Planning for arts and entertainment districts, from the neighborhood art studio to entire cities as entertainment destinations.

4461 Latino Urbanism and the Reinvention of the American City

U 3

Interdisciplinary course that examines a new trend of urbanism based on the urban experiences of Latinos and the study of this group's social, economic, and cultural impact on cities across the US. Taught in English. Team-taught course.

Prereq: Completion of 2nd GE Writing course, and Jr or Sr standing; or permission of instructor. Cross-listed in Spanish.

4597 The Global Environment in Planning

U 3

A review of challenges in developed and developing countries, examining planning issues associated with economic development, social equity, growth and rural development.

Prereq: Not open to students with credit for 597. GE cross-disciplinary seminar course.

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4674	The City as Art	U	3	
	This course will examine the ways that cities throughout the world integrate arts and culture into their planning, as well as whether being a cultural city can build the brand, draw new residents and attract visitors. We will investigate cultural tourism, urban cultural policy and temporary built culture such as festivals and fairs. Team-taught with faculty in ArtEduc.			
	Prereq: Jr or Sr standing. Not open to students with credit for ArtEduc 4674. Cross-listed in ArtEduc.			
4780H	Undergraduate Research Methods	U	3	
	Quantitative, qualitative and design methods for undergraduate level city and regional planning research. Honors section.			
	Prereq: Honors standing.			
4798	Planning Study Abroad	U	1 - 15	
	Rapid globalization of cities creates new opportunities to explore, investigate and analyze urban development internationally.			
	Repeatable to a maximum of 15 cr hrs or 2 completions.			
4798E	Study Tour	U	1 - 15	
	Group international and domestic travel programs opportunities tailored to complement the classroom experience.			
	Prereq: Honors standing. Repeatable to a maximum of 45 cr hrs or 3 completions.			
4900E	Plan Making	U	6	
	Plan creation focuses on working with real-world clients. Planning knowledge and skills will be applied to generate creative, innovative, and practical solutions.			
	Prereq: Honors standing, and acceptance into CRPlan BS major; or permission of instructor. Concur: 3300. Not open to students with credit for 4900S.			
4900S	Plan Making	U	6	
	Plan creation focuses on working with real-world clients. Planning knowledge and skills will be applied to generate creative, innovative, and practical solutions.			
	Prereq: Acceptance into CRPlan BS major, or permission of instructor. Concur: 3300. Not open to students with credit for 4900E.			
4910S	Realizing the Plan	U	6	
	Apply knowledge and skills to an implementation challenge. Work in consultation with professionals to produce a regulation, policy, or tool for use by the client.			
	Prereq: 4900S (510) or 4900E, or permission of instructor.			
4950	Professional Planning Skills Development	U	3	
	Professional skills including technical writing, public speaking, portfolio development, conflict resolution, and contracts as essential preparation for practice.			
	Prereq: 4900S (510) or 4900E, and acceptance to the CRPlan BS major; or permission of instructor. Not open to students with credit for 610. Repeatable to a maximum of 15 cr hrs.			
4999	Undergraduate Thesis in City and Regional Planning	U	6	
	Development of topical research/design projects with an interdisciplinary perspective.			
	Prereq: Permission of instructor.			
4999H	Undergraduate Thesis in City and Regional Planning	U	6	
	Course allows for development of topical research/design projects with an interdisciplinary perspective.			
	Prereq: Honors standing, and 4780H.			
5001	Introduction to GIS	U G	4	
	Introduction to the basic principles of geographic information systems and their use in spatial analysis and information management.			
	Prereq: Sr or Grad standing. Not open to students with credit for 607. Cross-listed in CivilEn 5001.			
5010	Historic Preservation Planning	U G	3	
	Cities are rich in history. Policies, incentives and planning aid in preserving unique historic character and heritage of cities.			
	Prereq: Sr or Grad standing. Not open to students with credit for Arch 604.			
5100	Technology in Design	U G	1 - 5	
	Software tools, information theory, and technology to aid in preparing for the professional planning workplace.			
	Repeatable to a maximum of 20 cr hrs or 4 completions.			
5160	Green Building Methods for Planning	U G	1	
	This course focuses on green building methods, techniques and practices and how they can be applied to city planning practice. Particular attention is paid to LEED-certification, a program that recognizes building practices that save money, reduce water consumption, make better material choices, have higher property values, and overall have fewer negative impacts on the environment.			
	This course is graded S/U.			
5180	TechniCity	U G	3	
	The way we understand cities is undergoing sweeping transformation, right along with the analytical tools we use to design our cities and the communication tools we use to engage people. Absorbing, studying and understanding the role of technology from a critical viewpoint allows us to generate creative ideas for improving our cities.			
	Prereq: Jr, Sr, or Grad standing.			
5191	Professional Experience in City and Regional Planning	U G	0	
	Professional practice in the field of city and regional planning or suitable related areas.			
	Prereq: Permission of instructor. Repeatable to a maximum of 6 completions. This course is graded S/U.			
5194	Group Studies in City and Regional Planning	U G	1 - 15	
	Group-based study of City and Regional Planning topics within the frame of an instructor guided course.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 4 completions.			
5200	Metropolitan and Regional Planning	U G	3	
	Cities and towns are becoming increasingly dependent on each other. Progressive approaches to regional planning directly influence the economy and quality of life.			
	Prereq: Sr or Grad standing. Not open to students with credit for 753.			
5300	Airport Planning, Design and Development	U G	3	
	A comprehensive study of airport planning, design and development, the role of the airport and its components as part of the overall air transportation system, the issues related to the planning, design, and development of the airport and its system.			
	Prereq: Aviatn 3000. Not open to students with credit for Aviation 674. Cross-listed in Aviatn and CivilEn.			
5400	Planning for Housing	U G	3	
	Housing - including its uses, meaning, design, and role. The creation of a range of housing to support growth and revitalization of cities and regions.			
	Prereq: Not open to students with credit for 320, 752, or PubAfrs 5400. Cross-listed in PubAfrs.			
5500	Energy Planning	U G	3	
	Energy makes cities run, from renewable and non-renewable sources. Energy is a driving opportunity and constraint in urban development.			
	Prereq: Grad standing, or 3000. Not open to students with credit for 720.			
5550	Financing Sustainability	U G	3	
	This course examines sustainability through the lens of financing. The primary foci are two important elements of green infrastructure - food systems and clean energy. Students will explore the systems and industry behind food and energy and develop comprehensive road maps that communities can use to build robust and financially supported supported sustainability systems for food and energy.			
	Prereq: CRPlan 3400, Grad standing, or permission of instructor.			
5670	Creative Place Marketing	U G	1	
	This course introduces the idea of creative placemaking and creative place marketing, explores issues in place marketing and introduces students to key considerations for developing place marketing plans, cultural tourism strategies, and other initiatives that improve the quality and economics of place through arts and culture. Emotional aspects of place and social justice issues are also covered.			
	This course is graded S/U.			
5700	Urban Transportation Demand Forecasting	U G	3	
	Introduction and applications for quantitative demand forecasting in urban transportation.			
	Prereq: Math 1118 or equiv, or Grad standing. Not open to students with credit for 775 or CivilEn 5700 (775). Cross-listed in CivilEn.			
5798	Planning Study Abroad	U G	1 - 15	
	Rapid globalization of cities creates new opportunities to explore, investigate and analyze urban development internationally.			
	Repeatable to a maximum of 15 cr hrs or 2 completions.			
5880	Interdepartmental Seminar	U G	1 - 15	
	Interdepartmental seminar; topics to be announced.			
	Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in Arch and LArch.			
5890	Workshop in City and Regional Planning	U G	1 - 15	
	Workshop on city and regional planning issues.			
	Repeatable to a maximum of 15 cr hrs or 5 completions.			
5900	Food System Planning and the Economy	U G	3	
	Examines the social, environmental and economic costs and benefits of our food production, distribution, and consumption.			
	Prereq: Not open to students with credit for AEDEcon 5900 or PubAfrs 5900. Cross-listed in AEDEcon and PubAfrs.			
5960	Design Competition	U G	1 - 6	
	Interdisciplinary teams develop design proposals to solve problems in the natural or built environment.			
	Prereq: Jr, Sr, or Grad standing. Repeatable to a maximum of 9 cr hrs or 3 completions. Cross-listed in Arch and LArch.			
6000	Historical Foundations of Planning	G	3	
	The people, movements, and principles which have shaped contemporary planning practice. Historical successes and failures mean for the future of planning.			
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 643.			
6010	Innovation in City and Regional Planning	G	3	
	Successful cities are innovative and forward-thinking. Challenges students to focus on generation of truly innovative ideas to improve cities and regions.			
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 742.			

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6080 Advanced GIS for Professional Planning Practice	G	4	
In-depth and hands-on training in GIS applications for city and regional planning. Prereq: 5001 and Grad standing, or permission of the instructor. Not open to students with credit for 608 or 609.			
6100 Participation and Advocacy in Planning	G	3	
Planning theories that support the planner's role in engaging and advocating for the public. Skills in public engagement techniques and tools. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 712.			
6150 Environmental Planning and Policy for a Sustainable Future	G	3	
This course incorporates environmental considerations into land use planning and policy making. Upon completion of this course students will be able to analyze environmentally related planning problems not requiring in-depth environmental expertise and recognize when such expertise is necessary.			
6191S Professional Development	G	1	
Provides successful candidates with a broad but intensive learning experience in various areas of city and regional planning. The program is designed to prepare individuals for professional planning positions. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.			
6193 Independent Studies in City and Regional Planning	G	1 - 15	
Study a specialized topic in City and Regional Planning with an instructor based on mutual interests. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.			
6194 Group Studies in City and Regional Planning	G	1 - 15	
Group-based study of City and Regional Planning topics within the frame of an instructor guided course. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.			
6200 Graphic Visualization	G	4	
Fundamental skills in graphics and graphic technology commonly used in planning, including on-line, print, document, poster, and video layout and design. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 702.			
6300 Law and Planning I: Land Use	G	3	
The impact of law on planning, with an emphasis on the regulation of land use. Prereq: Grad standing, or permission of the instructor. Not open to students with credit for 761.			
6310 Law and Planning II: Environment and Society	G	3	
The role of social and environmental justice and other societal considerations in the establishment of a legal framework in planning. Prereq: 6300 (761), and Grad standing; or permission of instructor. Not open to students with credit for 765 or 766.			
6320 Seminar in Land Use Policy	G	3	
Advanced seminar on topics in land use law and policy. Topics vary. Prereq: 6300 (761), and Grad standing; or permission of instructor. Not open to students with credit for 867. Repeatable to a maximum of 15 cr hrs.			
6350 The Socially Just City	G	3	
Poverty reduction, access to public services and improving quality of life are goals to achieving the socially just city. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 3500.			
6400 Site Planning and Development	G	4	
Effective site planning can lead to the development of a strong community. Learn the design, environmental and infrastructure elements that are needed to generate a feasible development project. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 745.			
6410 Planning for Sustainable Development	G	3	
Sustainable development is a broad concept; translated into reality through relevant theory and the implementation of key design, policy and project based solutions. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 724.			
6411 Sustainability, Measurement and Power	G	3	
Indicators drive decisions and inform action. This course introduces students to the history, theory and practice of measuring sustainability, with a focus on the metropolitan environment. Students will come to understand the relationship between sustainability, measurement and governance, analyzing and comparing specific indicators within their institutional, political and social contexts. Prereq: Grad standing.			
6420 Infrastructure Planning	G	3	
Infrastructure development plans address the planning, budgeting and programming challenges of making cities run. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 783.			
6425 Measuring Resilience to Disasters for Planning	G	3	
This course focuses on concepts, elements, theory, and applications for resilience to disasters in urban and regional planning. Students will develop quantitative analytical skills in resilience assessment through various methods, including resilience indicators, cost-benefit analysis, econometric analysis, and simulation analysis. Prereq: Grad standing, or permission of instructor.			
6430 Urban Design	G	3	
Vibrant cities contribute to quality of life, through urban design and urban form. Site analysis, context sensitive design and impacts of design choices are explored. Prereq: Grad standing, or permission of the instructor. Not open to students with credit for 731.			
6440 Research Methods for Urban Design and Planning	G	3	
Behavioral research and evaluation (research design, validity, reliability, data gathering techniques) methods for urban design and planning questions. Prereq: Grad standing, or permission of the instructor. Not open to students with credit for 734.			
6460 Real Estate Finance for Planners	G	3	
Realize plans by understanding the financial mechanisms to fund projects. Explore how public-private partnerships create opportunities for affordable housing, downtown revitalization, and neighborhood improvement. Prereq: Grad standing, or permission of instructor. Cross-listed in PubAfrs.			
6500 Plan Making and Analysis Techniques	G	4	
Collection and analysis of information used to make plans, including population projections and economic activity. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 762.			
6500.02 Data and Forecasting for Planning	G	2	
Models and methods used in the analysis and projection of population and employment, and the major data sources for such analyses, including data shortcomings and problems of comparability. The use of data and projection methodologies by planners, with an emphasis on translating results into policy implications that are understandable by the non-technical reader. Prereq: Permission of instructor.			
6600 Evaluation Methods in City and Regional Planning	G	3	
City and regional planners routinely plan and evaluate public sector interventions which generally take the form of physical infrastructure projects or public policies and programs. This course offers an overview of the concepts, methods, and metrics used to anticipate the impact and evaluate the trade offs of proposed projects, policies, and programs. Prereq: Grad standing, or permission of instructor.			
6610 Grant Writing in the Public Sector	G	3	
Public officials rely on grants to help fund their grand plans. Planners find grants, prepare proposals, and manage grants to effectively support public projects. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 837 or PubPolM/PubAfrs 880.06. Cross-listed in PubAfrs 7501.			
6620 Project Management in the Public Sector	G	3	
Public officials recognize the importance of project management in organization success. Management of complex, high-risk, high-visibility public projects is examined. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 880 or PubAfrs 880.05. Cross-listed in PubAfrs 7555.			
6700 Technology in Design	G	1 - 5	
Software tools, information theory, and technology to aid in preparing for the professional planning workplace. Repeatable to a maximum of 20 cr hrs or 4 completions.			
6798 Planning Study Abroad	G	1 - 15	
The world is rapidly globalizing. Exploring global cities provides a rich perspective that can be used to evaluate domestic and international planning challenges. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.			
6810 Non-motorized Transportation Planning	G	3	
Safely design a non-motorized transportation network that accommodates all users. Using effective planning strategies to create transportation master plans for pedestrian and bicycle networks. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 776.			
6890 Workshop in City and Regional Planning	G	1 - 15	
Workshop on city and regional planning issues. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.			
6910 Comprehensive Planning Studio	G	6	
Application of knowledge and skills to a comprehensive planning process in consultation with professionals to produce a plan for use by a real world client. Prereq: 6400 (745) and 6500 (762), or permission of instructor. Not open to students with credit for 853.			
6920 Urban Design/Physical Planning Studio	G	6	
Improvement of the aesthetics of the built environment through the creation of a physical plan for a portion of a city using an integrative process to solve planning challenges. Course cannot be taken concurrently with other studio courses (6930, 6950, 6960, or 6970). Prereq: 6430 (731), or permission of instructor. Not open to students with credit for 851.			

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6930 Neighborhood Planning Studio G 6

Planning for neighborhoods engages residents and local non-profit organizations to empower them to solve planning challenges using democratic methods. Course cannot be taken concurrently with other studio courses (6920, 6950, 6960, or 6970). Prereq: 6400 (745) and 6500 (762), or permission of instructor. Repeatable to a maximum of 12 cr hrs.

6950 Transportation Studio G 6

Planning for transportation requires an examination of environmental, social, and economic factors, as well as active engagement of decision makers and transportation users alike. Course cannot be taken concurrently with other studio courses (6920, 6930, 6960, or 6970). Prereq: 6400 (745) and 6500 (762), or permission of instructor. Not open to students with credit for 852.

6960 Sustainability Studio G 6

Planning for sustainability requires systems thinking, strategic solutions and collaborative governance. Sustainability plans will be generated through active engagement with a client community. Course cannot be taken concurrently with other studio courses (6920, 6930, 6950, or 6970).

Prereq: 6410 (724), and Grad standing, or permission of instructor. Not open to students with credit for 824.

6970 International Development Studio G 6

Cities and regions across the globe are rapidly urbanizing and are facing planning challenges. Plan development focuses on developing context-sensitive solutions. Course cannot be taken concurrently with other studio courses (6920, 6930, 6950, or 6960).

Prereq: 6400 (745) and 6500 (762), or permission of instructor. Not open to students with credit for 749.

6999 Research for Thesis in City and Regional Planning G 1 - 12

Research for Thesis in City and Regional Planning.

Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is progress graded (S/U).

7000 Contemporary Planning Research G 3

Introduction and overview of topics and techniques in planning research.

Prereq: Grad standing. Not open to students with credit for 871.01.

7100 City & Regional Planning Theory G 3

Critical inquiry into the dominant theories related to city and regional planning research and practice.

Prereq: Grad standing. Not open to students with credit for 864.01.

7110 Development Theory G 3

Critical inquiry into the classic debates and critiques of development theory related to planning research and practice in developing countries.

Prereq: Grad standing.

7194 Group Studies in City and Regional Planning G 1 - 15

For group-based study of city and regional planning topics within the frame of an instructor guided course.

Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

7300 Planning Dissertations and Theses from Start to Finish G 3

Covers the full dissertation/thesis process: topic selection, refinement, proposal development, literature review, methods, data collection/analysis, presenting and publishing, getting a job, life on the job.

Prereq: Grad standing. Not open to students with credit for 871.09.

7500 Resolving Social Conflict G 3

Multidisciplinary examination of social conflict, its dynamics and negotiated and consensual resolution; offers broad-based framework for diagnosing and managing conflict; applied to legal, environmental, organizational, and geopolitical conflicts.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 750, ENR 750, or BusAdm 750. Cross-listed in ENR and BusMHR.

7509 Disasters: Preparedness and Response G 3

Introduction to planning, policy, and management issues that arise when disaster strikes, and the roles of government, non-profits, communities, and individuals in emergency preparedness by examining a variety of recent natural and human-made disasters, both in the U.S. and abroad.

Cross-listed in PubAfrs.

7531 Economic Development Policy G 3

Takes a practical approach to the legal, policy, and business issues related to urban redevelopment. Students gain a legal perspective as they investigate business and public policy issues surrounding redevelopment in our urban core.

Prereq: Not open to students with credit for PubAfrs 880.02. Cross-listed in PubAfrs.

8193 Independent Studies in City and Regional Planning G 1 - 15

Study a specialized topic in City and Regional Planning with an instructor based on mutual interests.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8194 Group Studies in City and Regional Planning G 1 - 15

Group-based study of City and Regional Planning topics within the frame of an instructor guided course.

Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

8200 Teaching Practicum in City and Regional Planning G 0 - 9

A hands on teaching experience in conjunction with a city and regional planning faculty member. Includes syllabus development, course preparation, lecture, discussion experience, and grading review.

Prereq: Grad standing. Not open to students with credit for 990.

8300 General Practicum in City and Regional Planning G 0 - 9

Supervised field experience in city and regional planning; analysis and critique of field experience.

Prereq: Grad standing. Not open to students with credit for 990.

8999 Research for Dissertation in City and Regional Planning G 1 - 15

Research for Doctoral Dissertation Purposes.

Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

Civil Engineering

2050 Probabilistic Applications and Data Interpretation in Civil and Environmental Engineering U 3

Fundamentals of probability and statistical analysis for applications and data interpretation in Civil and Environmental Engineering design and analysis.

Prereq: Enrollment in CivilEn or EnvEng major. Not open to students with credit for 405.

2060 Numerical Analysis Methods for Civil and Environmental Engineering Applications U 4

Implement numerical solution techniques using computer programming in MATLAB and apply them to a variety of problems related to Civil Engineering.

Prereq: 2050 (405), and Math 2173, 2177, 2255 (255), or 2415 (415), and enrollment in CivilEn or EnvEng major. Not open to students with credit for 406.

2090 Professional Aspects of Civil and Environmental Engineering U 1

Topics in Civil and Environmental Engineering ethics and practice. Must be taken as soon as possible upon entering the major.

Prereq: Enrollment in CivilEn or EnvEng major. Not open to students with credit for 460 or EnvEng 460. Cross-listed in EnvEng.

2193 Individual Studies in Civil Engineering U 1 - 5

Individual conferences, assigned readings, and reports on minor investigations.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

2194 Group Studies in Civil Engineering U 1 - 5

Provides groups of students opportunities to pursue special studies not otherwise offered.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

2405 Computer Graphics for Civil Engineers U 1

An introductory course in graphics with emphasis on the application on computer generated graphics to the solution of civil engineering problems. AutoCAD and Civil 3D or similar software to be used.

Prereq: Enrollment in pre-CivilEn program, or permission of instructor. Not open to students with credit for Engr 4410.01 or FABEng 3171.

2410 Introduction to Surveying U 3

An introduction to surveying and geomatics, with an emphasis on basic spatial data collection and construction layout using ground-based measurement techniques. Must be taken as soon as possible upon entering the major.

Prereq or concr: 2050 (405), and enrollment in CivilEn major. Not open to students with credit for 400.

2810 Construction Engineering and Management: An Introduction U 3

Basic engineering and management concepts of construction operations of various foundations, concrete, and steel buildings and bridges.

Prereq: Enrollment in CivilEn major. Not open to students with credit for 682.

3080 Economic Evaluation and Optimization in Civil and Environmental Engineering U 3

Fundamentals of engineering economics and optimization for civil and environmental engineering planning and design.

Prereq or concr: 2060 (406), and enrollment in CivilEn or EnvEng major. Not open to students with credit for 576 or EnvEng 576. Cross-listed in EnvEng.

3130 Fluid Mechanics U 3

An introduction to fluid mechanics; topics include: fluid properties; fluid statics; flow concepts; continuity, energy, and momentum equations; dimensional analysis; basic pipe flow; lab experiments.

Prereq or concr: 2050 (405) and MechEng 2030 (430); or enrollment in FABEng major; or permission of department chairperson. Not open to students with credit for 413 or EnvEng 413.

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3160 Water Resources Engineering	U 3	4350 Reinforced Concrete Design	U 3
Pipe systems, introduction to open channel flow, basic hydrology, demographic studies, water supply, and wastewater flows. Prereq: 3130 (413) or EnvEng 413; and CSE 1221 (205) or 1222 (202) or EnGraph 167 or Engr 1221 or 1222 or 1281H or Engineer; and enrollment in CivilEn or EnvEng major. Not open to students with credit for 516 or EnvEng 516.		Analysis and design of reinforced concrete beams, one-way slabs and columns under flexure, shear and axial loads. Prereq: 3310 (431), and enrollment in CivilEn major. Not open to students with credit for 535.	
3310 Structural Engineering Principles	U 3	4552 Design and Construction of Flexible Pavements	U 3
Structural forms and loads, statically determinate structures, and trusses, internal loadings developed, influence lines for statically determinate structures, cables and arches, elastics beam deflections, energy methods. Prereq: MechEng 2020 (420), and enrollment in CivilEn major. Prereq or concur: 2050 (405), or permission of department chair. Not open to students with credit for 431.		The design, manufacturing, placement, compaction and maintenance of hot mix asphalt for roadways with coverage on how to determine and specify which mixture to use for a given application. Sustainable roadway design is also covered. Prereq: 3510 (451); and Math 2250 (255), 2415 (415) or 2177. Not open to students with credit for 552.	
3510 Civil Engineering Materials	U 3	4998 Undergraduate Research in Civil Engineering	U 1 - 5
Composition and Characterization of civil engineering materials - concretes, asphalts, plastics, fiber-reinforced composites; elastic, plastic, visco-elastic, and failure characterization under various environmental and mechanical loading conditions. Prereq or concur: 2050 (405), and MechEng 2020 (420) or 440, and enrollment in CivilEn major; or permission of department chairperson. Not open to students with credit for 451.		Opportunity for undergraduate students to conduct research in Civil and Environmental Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.	
3540 Geotechnical Engineering	U 2	4998H Undergraduate Research in Civil Engineering	U 1 - 5
The properties of soils as construction materials (e.g., for earth dams) and as foundations for building are introduced and state-of-the-art numerical techniques for the prediction of seepage and settlement are presented. Contemporary issues such as the impact of soil failure mechanisms and sustainability are covered. Prereq: MechEng 2020 (420) or 2040, and enrollment in CivilEn or EnvEng or FABEng major program. Concur: CivilEn 3541. Prereq or concur: CivilEn 2050 (405); or permission of instructor. Not open to students with credit for 554.		Opportunity for undergraduate honors students to conduct research in Civil and Environmental Engineering. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.	
3541 Geotechnical Engineering Laboratory	U 1	4999 Civil Engineering Research for Thesis	U 1 - 5
Laboratory determination of soil properties including grain size distribution, plasticity, permeability, compaction and shear strength (both drained and undrained). Course must be taken concurrently with 3540, 5561, or 5571. The 3541 course requirement may be waived in 5561 and 5571 by the instructor, if the student demonstrates previous completion of a similar lab program. Concur: 3540, 5561, or 5571.		Supervised research and project work. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.	
3700 Transportation Engineering and Analysis	U 3	4999H Civil Engineering Research for Thesis	U 1 - 5
Introduction to mathematical analysis and design of various transportation engineering topics: scheduled services, sight distance, geometric design, freeway capacity, traffic flow and queuing, signalized intersections. Prereq or concur: 2050 (405), and enrollment in CivilEn major; or permission of department chairperson. Not open to students with credit for 570.		Supervised research and project work arranged individually for honors students. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.	
4001 Civil Engineering Capstone I	U 2	5001 Introduction to Geographic Information Systems	U G 4
Part 1 of the two semester course sequence for the culminating design component in the curriculum for students in Civil Engineering. Must be taken in semester preceding 4002, with sequence completed as close to graduation as possible. Prereq: 2050, 2060, 2405, 2410, 2810, 3130, 3160, 3310, 3510, 3541, 3700, and 4320 or 4350, and EnvEng 3200, and enrollment in CivilEn major. Not open to students with credit for 4000.01.		Introduction to the basic principles of geographic information systems and their use in spatial analysis and information management. Prereq: 2050 (405), and Sr standing; or permission of instructor. Not open to students with credit for 607, GeodSciE 607, GeodSciM 607, CRPlan 607, GeoSci 607, ENR 607, NatRes 607, or Geog 685. Cross-listed in CRPlan.	
4002 Civil Engineering Capstone II	U 2	5130 Applied Hydrology	U G 3
Part 2 of the two semester course sequence for the culminating design component in the curriculum for students in Civil Engineering. Must be taken in semester immediately following 4001, with sequence completed as close to graduation as possible. Prereq: 4000.01 or 4001. Not open to students with credit for 4000.02.		Hydrologic cycle, meterology, streamflow, evapotranspiration, hydrographs, runoff relations, runoff hydrographs, groundwater, unit hydrographs, flood routing, frequency and duration studies, and application of hydrologic techniques. Prereq: 3160 (516) or EnvEng 516. Not open to students with credit for 613 or EnvEng 613.	
4193 Individual Studies in Civil Engineering	U 1 - 5	5162 Introduction to Laminated Composite Materials	U G 3
Individual conferences, assigned readings, and reports on minor investigations. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		Introduction to anisotropic material behavior and failure assessment of laminated composite materials. Classical lamination theory, beams, plates and shells. Prereq: MechEng 2020 (420) or 2040; or Grad standing in Engineering; or permission of instructor. Not open to students with credit for 662, 762, MechEng 5162, 662, or 762. Cross-listed in MechEng.	
4194 Group Studies in Civil Engineering	U 1 - 5	5168 Introduction to the Finite Element Method	U G 3
Provides groups of students opportunities to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.		Basic concepts, formulation, and application of finite element techniques for numerical solution of problems of engineering and scientific interest. Prereq: 2060 (406), Math 2568 (568), or MechEng 2850 (250), or equiv, or Grad standing in Engineering or Math. Not open to students with credit for 768, MechEng 5168 (768), or Math 5168. Cross-listed in MechEng and Math.	
4310 Structural Analysis	U 3	5194 Group Studies in Civil Engineering	U G 1 - 5
Deflection in trusses, beams, and frames. Solution of Indeterminate Structures by methods of consistent deformations and moment distribution. Beam and truss analysis using stiffness method. Prereq: 3310 (431). Not open to students with credit for 531.		Provides groups of students opportunities to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.	
4320 Structural Steel Design	U 3	5220 Open Channel Hydraulics	U G 3
Design of steel tensile members, compression members, beams, beam-columns, and bolted and welded connections based on AISC Specifications. Design problem solving. Introduction to computer-aided design. Prereq: 3310 (431), and enrollment in CivilEn major. Not open to students with credit for 532.		Flow classifications, channel properties, energy and momentum principles, critical flow, uniform flow formulas, erodible and nonerodible channel design, and gradually-varied profile computations. Prereq: 3160 (516) or EnvEng 516; and Math 2177, or 2415 and 2568. Not open to student with credit for 722.	
4340 Behavior of Structural Element	U 3	5230 Transport Phenomena in Water Resources Engineering	U G 3
Mechanics of beams - symmetrical bending and unsymmetrical bending; shear stresses and shear center for thin flange beams; buckling of columns; pressure vessels and combined loadings. Prereq: 3310 (431). Not open to students with credit for 534.		Study of the mechanisms by which momentum, heat, and mass are transported in fluid systems of interest to water resources engineers. Prereq: 3160 (516) or EnvEng 516, and Math 2173, 2177, 2255 (255), or 2415 (415). Not open to students with credit for 723.	
		5240 Groundwater Engineering	U G 3
		The role of groundwater in the hydrologic cycle, water supply, construction, and contamination. Includes principles describing subsurface water movement (seepage, saturated, and unsaturated flow). Emphasis on gaining a working knowledge of techniques used in applied engineering practice to estimate groundwater parameters for design purposes. Applications include well design, pumping, and drains. Prereq: 3130, or Grad standing; or permission of instructor. Not open to students with credit for 750.	

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5300 Airport Planning, Design, and Development

U G 3

A comprehensive study of airport planning, design & development, the role of the airport and its components as part of the overall Air Transportation System, and the issues related to the planning, design, and development of the airport and its systems.

Prereq: Aviatn 3000. Not open to students with credit for Aviation 674. Cross-listed in Aviatn and CRPlan.

5310 Matrix Structural Analysis

U G 3

Analysis of frame structures by force and displacement methods using matrices.

Prereq: 4310 (531). Not open to students with credit for 735.

5320 Intermediate Structural Steel Design

U G 3

Design of bolted and welded building connections; structural behavior in the nonlinear range; plastic analysis and design of steel structures.

Prereq: 4310 (531) and 4320 (532). Not open to students with credit for 738.

5350 Intermediate Reinforced Concrete Design

U G 3

Analysis and design of reinforced concrete systems and components.

Prereq: 4350 (535). Not open to students with credit for 731.

5360 Bridge Engineering

U G 3

Types of bridges; aesthetics in bridge design; loads on bridges; selection of bridge type; AASHTO specifications for bridge design; design of steel bridges.

Prereq: 4310 (531) and 4320 (532). Not open to students with credit for 736.

5370 Prestressed Concrete Design

U G 3

Design applications for prestressed concrete members and structures. Basic concepts to be covered include flexural and shear design, stress analysis, deflections, and prestress losses.

Prereq: 4350 (535). Not open to students with credit for 737.

5410 Engineering Surveying

U G 3

Surveying applications for engineering, construction, mining and transportation work. Route surveying and geometric design; topographic site surveys and mapping; earthwork computations.

Prereq: 2410, GeodSciE 410, or 450, and enrollment in CivilEn major, or permission of instructor. Not open to students with credit for GeodSciE 502.

5411 Legal Aspects of Surveying

U G 4

History of measurement; development of land survey systems; milestones in technology; Land Surveyor's role; types of land surveys; retriangulation principles; laws on surveying practices.

Prereq: 2410 (400), and enrollment in CivilEn major; or permission of instructor. Not open to students with credit for GeodSciE 560 and 561.

5412 Land Boundary & Development Principles

U G 4

Analysis of evidence and procedures for boundary location; preparing land boundary descriptions; process of subdividing and platting land.

Prereq: 5411, or 560 and 561, and enrollment in CivilEn major; or permission of instructor. Not open to students with credit for GeodSciE 561 and 562.

5420 Remote Sensing of Environment

U G 3

The energies of the natural and cultural environment, current remote sensing systems and case histories of applications in measuring the environment.

Prereq: 2410 (400), or permission of instructor. Not open to students with credit for 603 or 606.

5421 Spatial Analysis Techniques for Civil Engineering

U G 3

Principles of spatial analysis techniques for application to civil engineering, particularly in the water resources and geotechnical areas.

Prereq: 5001 (607), or permission of instruction. Not open to students with credit for 608.

5422 Terrain Analysis

U G 3

Principles and applications of photo pattern analysis, geologic and geomorphologic patterns, terrain studies, and land use suitability and capability mapping.

Prereq: 2050 (405), or permission of instructor. Not open to students with credit for 604.

5431 GIS and Cartographic Engineering

U G 4

Introduction to GIS and Cartographic Science and Engineering principles emphasizing the technical aspects of spatial information infrastructure, coordinate systems, projections, spatial databases, and cartographic design.

Prereq: Enrollment in the Surveying and Mapping minor or CivilEn major; or Grad standing; or permission of instructor. Not open to students with credit for GeodSci 630.

5441 Introduction to GPS: Theory and Applications

U G 3

Introduction to reference systems; fundamentals of GPS design and operation; GPS observables, error analysis and handling; data collection and data processing; interdisciplinary applications of GPS.

Prereq: Math 1172 or 1544 (154) or 2153 (254), and Jr standing or above; or Grad standing; or permission of instructor. Not open to students with credit for GeodSci 608.

5461 Geospatial Numerical Analysis

U G 4

Application of adjustment techniques to geo-spatial information including but not limited to GPS, Photogrammetry GIS and remote sensing.

Prereq: 2410 (400), or Grad standing. Not open to students with credit for GeodSci 650 or 651.

5561 Principles of Soil and Rock Mechanics

U G 3

Stress-strain properties of soil and rock. Strength of cohesive and non-cohesive materials under a variety of loads. Settlement and stability analyses of soil and rock slopes in for both in-situ and reconstituted materials.

Prereq: 3540 (554), or Grad standing. Not open to students with credit for 651 or 653.

5571 Principles of Foundation Analysis and Design

U G 3

Design methods (classical and numerical) will be presented for the analysis of excavations, earth structures, shallow and deep foundations. The course introduces: site investigation techniques, failure mechanisms and design techniques of footings, drilled shafts, sheet piles, driven piles, anchors, tiebacks, and MSE walls, as well as, stability and settlement calculations.

Prereq or concur: 3540 (554), 5561 (651), and 3541; Grad standing; or permission of instructor.

5610.01 Sustainable Infrastructure for Developing Rural Communities

U G 3

Working effectively with developing rural communities to identify and acquire their basic infrastructure needs demands a combination of community development and engineering expertise. This series of courses will, at an introductory level, bridge the gap between these two disciplines. It will provide the engineer with the knowledge of how to design sustainable infrastructure systems.

Prereq: Permission of instructor.

5700 Urban Transportation Demand Forecasting

U G 3

Introduction and applications of quantitative demand forecasting in urban transportation. Prereq: 3700 (570), or Grad standing in CivilEn, or permission of instructor. Not open to students with credit for 775 or CRPlan 5700 (775). Cross-listed in CRPlan.

5720 Transportation Engineering Data Collection Studies

U G 3

Methods of collecting and analyzing transportation data with empirical applications. Prereq: 3700 (570), or Grad standing in CivilEn, or permission of instructor. Not open to students with credit for 672.

5730 Highway Location and Design

U G 3

Methods of route location; design standards for highways, intersections, freeways, and interchanges; discussion of computer methods for highway design.

Prereq: 3700 (570), or Grad standing in CivilEn, or permission of instructor. Not open to students with credit for 673.

5740 Design and Operation of Road Traffic Facilities

U G 3

Traffic laws and ordinances; operational design of streets, intersections, parking, and terminal facilities, design and operation of traffic control devices.

Prereq: 3700 (570), or Grad standing in CivilEn, or permission of instructor. Not open to students with credit for 774.

5750 Instrumentation, Signals, and Control in Transportation Applications

U G 3

An interdisciplinary course bringing together electrical engineering tools and transportation applications. Students gain valuable experience working in teams while learning traffic flow, surveillance and control.

Prereq: 3700 (570), or Grad standing in Engineering or Science, or permission of instructor. Not open to students with credit for 675 or ECE 5400 (675). Cross-listed in ECE 5400.

5760 Network Metrics and Control in Transportation Systems

U G 3

Course covers fundamental analysis tools including: time space diagram, queuing theory, traffic flow theory, and further network theory. Includes application to intersection control (signal timing).

Prereq: 3700 (570), or Grad standing in CivilEn, or permission of instructor. Not open to students with credit for 776.

5770 Urban Public Transportation

U G 3

This course focuses on the analysis, planning, and design of bus and rail urban public transportation services and operations. Fundamental knowledge and methods for network and route planning, service planning, design, performance monitoring, and operations control. Analytical tools including probability, statics, and optimization are extensively used in this course.

Prereq: 3700 (570), or Grad standing in CivilEn, or permission of instructor. Not open to students with credit for 670. Cross-listed in CRPlan.

5780 Seminar in Transportation Engineering and Planning

U G 1

Speakers from and site visits to transportation agencies, organizations, and companies.

Prereq: 3700 (570), or Grad standing in CivilEn, or permission of instructor. Repeatable to a maximum of 3 cr hrs.

5810 Construction Safety and Forensics

U G 3

Practical aspects of identifying construction and structural problems, construction accidents, mechanisms of failures and accidents, methods of avoidance and forensic engineering.

Prereq: 2810 (682), or permission of instructor. Not open to students with credit for both 683 and 688.

5820 Construction Estimating

U G 3

Practical aspect in estimating real construction projects encompassing highway, foundation, buildings, and bridges.

Prereq: 2810 (682), or permission of instructor. Not open to students with credit for 685.

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5830 Construction Scheduling	U G 3		
Practical aspects in identifying construction activities and their relations, establishing visual representation of a project schedule, and computing the completion date of the project.			
Prereq: 2810 (682), or permission of instructor. Not open to students with credit for 684.			
5840 Construction Contracts and Claims	U G 3		
Practical aspects of the development and interpretation of contracts and claims focusing on the construction industry.			
Prereq: 2810 (682), or permission of instructor. Not open to students with credit for 686.			
5860H Sustainable Ancient Constructed Facilities	U G 3		
Honors course for the construction operations of ancient facilities and the assessment of the sustainability of constructed facilities.			
Prereq: Honors standing, and English 1110; or Grad standing.			
5880 Civil Engineering Seminar	U G 1		
Seminar course which presents current research findings on Civil Engineering.			
Prereq: Jr. Sr, or Grad standing in CivilEn, and permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.			
6193 Individual Studies in Civil Engineering	G 1 - 5		
Individual conferences, assigned readings, and reports on minor investigations. Topics selected to give the advanced student opportunity to pursue special studies not otherwise offered.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			
6194 Group Studies in Civil Engineering	G 1 - 5		
Provides groups of students opportunities to pursue special studies not otherwise offered.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
6230 Numerical Models in Water Resources Engineering	G 3		
Lake, river, and coastal contaminant or heat numerical transport model formulation; averaging; finite difference and finite volume methods; errors, stability; data requirements, verification procedures.			
Prereq: 5230. Not open to students with credit for 823.			
6451 Introduction to Photogrammetry	G 4		
Analytical and digital photogrammetry, bundle block adjustment, analytical camera calibration, aerotriangulation, image acquisition systems, GPS controlled aerotriangulation, quality control and network design, DEMs and orthophotography.			
Prereq: Not open to students with credit for 725 and 728.			
6999 Civil Engineering Research for Thesis	G 1 - 15		
Research for thesis purposes only.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.			
7320 Structural Reliability	G 3		
Fundamental concepts, theoretical developments, and simulation strategies for the assessment of the reliability of structures with applications in design and performance evaluation of new and existing structures and other engineered systems.			
Prereq: 2050, and 4320 or 4350; or Grad standing in CivilEn; or permission of instructor.			
7330 Earthquake Engineering	G 3		
Analysis and design of structures subject to seismic loading; case studies of behavior of structures during earthquakes; design of structures to minimize earthquake damage; earthquake-resistant systems for highrise buildings; vibration control.			
Prereq: A course in structural dynamics or vibrations, or permission of instructor. Not open to students with credit for 830.			
7332 Advanced Behavior and Design of Metal Structures	G 3		
Torsion, lateral torsional buckling, design of plate girders, building connections, braced and unbraced frames, design of rigid frames, design of composite steel-concrete floors, highrise and superhighrise buildings, CAD/CAE, design optimization.			
Prereq: 5320. Not open to students with credit for 832.			
7350 Advanced Reinforced Concrete	G 3		
Advanced topics in reinforced concrete structural modeling, analysis, design and detailing.			
Prereq: 5350. Not open to students with credit for 831.			
7432 Advanced Spatial Databases	G 4		
Introduction to spatial algorithms; spatial data generation; 3-D spatial modeling; spatial indexing; spatial relational operators; normalization and confirmation; and spatial applications.			
Prereq: 5001, 5421, 6431, or permission of instructor. Not open to students with credit for 787 or GeodSci 787.			
7433 GIS Analysis and Projects	G 3		
Using GIS and cartography principles to develop spatial analysis functions and to develop and implement a fully functional GIS application system.			
Prereq: 5001 or 6431, or permission of instructor. Not open to students with credit for GeodSci 634.			
7442 Fundamentals of GPS and Reference Systems	G 4		
Operational concepts of the Global Positioning System, the theory of positioning with satellites and fundamental concepts of reference frames and systems.			
Prereq: 6461, GeodSci 650, or equivalent; or permission of instructor. Not open to students with credit for 609, GeodSci 609, or 660.			
7452 Spatial Geometry and Spectral Analysis	G 4		
Projective Geometry of sensors; surface reflectance models; map generation; spectral analysis as applied in photogrammetry; pattern analysis for feature and object classification in digital photogrammetry.			
Prereq: 6451.			
7453 Photogrammetric Computer Vision	G 3		
Fundamental processes of digital photogrammetry. Advanced DEM and orthophoto methods. Extraction of high level features such as lines curves and segments; Matching high level features.			
Prereq: 6451.			
7461 Advanced Geospatial Numerical Analysis	G 3		
Advanced geospatial numerical methods, stochastic approaches to solving mathematical equations by highlighting convergence, complexity, conditioning, compression, and orthogonality.			
Prereq: 5441, 6431, and 7453. Not open to students with credit for GeodSci 650.			
7730 Transportation Demand Modeling	G 4		
Various applications of demand modeling in transportation, with emphasis on discrete choice demand modeling.			
Prereq: 5700, CRPlan 5700, or permission of instructor. Not open to students with credit for 873.			
7740 Urban Transportation Network Analysis	G 4		
Various networks concepts and applications in transportation, with emphasis on equilibrium-based traffic assignment.			
Prereq: 5700, CRPlan 5700, or permission of instructor. Not open to students with credit for 874.			
7760 Transportation Management Systems	G 3		
Concepts and methods for the management of unscheduled and scheduled urban transportation systems. Emphasizes network performance and travel demand interactions, and real-time applications.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 878.			
7770 Infrastructure Systems Analysis	G 3		
Presents a systems approach to infrastructure provision and management with a focus on the uncertainty inherent to large-scale and long-lived facilities.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 777.			
7780 Graduate Student Seminar in Transportation Engineering and Planning	G 1		
Students will present their research to one another to gain experience presenting, learn what other students are doing, and provide feedback to one another.			
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
7790 Transportation Practicum	G 4		
Practical experience and perspective on practice of transportation engineering and planning.			
Prereq: Grad standing in CivilEn and CRPlan Dual M.S. Degree Program, and permission of instructor. Not open to students with credit for 990. This course is graded S/U.			
8193 Individual Studies in Civil Engineering	G 1 - 5		
Individual conferences, assigned readings, and reports on minor investigations. Topics selected to give the advanced student opportunity to pursue special studies not otherwise offered			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			
8194 Group Studies in Civil Engineering	G 1 - 5		
Provides groups of students opportunities to pursue special studies not otherwise offered.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
8434 Advanced Planetary Mapping and Exploration	G 3		
Introduction to advanced localization techniques, navigation methodologies and mapping capabilities in Planetary Mapping with the most recent advances in planetary missions.			
Prereq: 5001 and 6431, or permission of instructor.			
8443 Advanced Topics in GPS	G 3		
Advanced topics in GPS focused on science, engineering and navigation applications of GPS: Positioning algorithms; Remote sensing with GPS; GPS atmospheric studies; GPS integration with other navigation and imaging sensors (digital cameras, LIDAR).			
Prereq: 7442, 6461, or GeodSci 650, 651, or equivalent; or permission of instructor. Not open to students with credit for GeodSci 888.			
8454 Videogrammetry	G 3		
Optical flow; neuronal processing; measuring motion field; geometry of motion field; camera motion; rigid and nonrigid body motion; measurements from motion; block adjustment using motion.			
Prereq: 6451 and 7442.			

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8462 Advanced Geospatial Sensors and Methods G 4

Technologies, methods and sensors for geospatial information acquisition using land-based, airborne and spaceborn platforms. Methods and techniques of data processing and analysis, error characteristics, sensor calibration and integration.

Prereq: 7461 and 8443, or permission of instructor.

8810 Construction Intelligent System and Simulation I G 3

Applications of intelligent system to construction systems and operations. Simulations include mathematics and computer modeling. Knowledge about computer programming recommended.

Prereq: 2810 and 5810, or permission of instructor. Not open to students with credit for 881.

8820 Construction Intelligent System and Simulation II G 3

Applications of intelligent system to construction systems and operations. Simulations include mathematics and computer modeling. Knowledge about computer programming recommended.

Prereq: 8810, or permission of instructor. Not open to students with credit for 888.

8998 Graduate Research in Civil Engineering G 1 - 15

Graduate level research in Civil Engineering.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.

This course is graded S/U.

8999 Civil Engineering Research for Dissertation G 1 - 15

Research for dissertation purposes only.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.

This course is graded S/U.

Classics

1101 Introduction to Classical Literature U 3

Introductory survey of the Greek and Roman achievement in literature and its contribution to Western thought; selected readings in English translation in major authors from Homer to Boethius.

GE lit and diversity global studies course.

1101H Introduction to Classical Literature U 3

Introductory survey of the Greek and Roman achievement in literature and its contribution to Western thought; selected readings in English translation in major authors from Homer to Boethius.

Prereq: Honors standing, or permission of instructor. GE lit and diversity global studies course.

2010 Classical Background of Scientific Terminology U 3

An introduction to the Greek and Latin roots of modern scientific terminology, especially medical and pharmaceutical terminology. This is an online-based course. In-person sessions include first-day orientation, midterm, and the final exam.

Prereq: Not open to students with credit for Classics 210.

2194 Group Studies U 1 - 9

Topics in classical studies.

Au, Sp, Su Sem. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

2194H Group Studies U 1 - 9

Topics in classical studies.

Au, Sp, Su Sem. Prereq: Honors standing, or permission of department or instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

2201 Classical Civilization: Greece U 3

A survey of ancient Greek civilization, concentrating upon important facets of literature, history, art, and archaeology.

Prereq: Not open to students with credit for Classics 224. GE cultures and ideas and diversity global studies course.

2201H Classical Civilization: Greece U 3

A survey of ancient Greek civilization, concentrating upon important facets of literature, history, art, and archaeology.

Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for Classics 224H. GE cultures and ideas and diversity global studies course.

2202 Classical Civilization: Rome U 3

A survey of the civilization of ancient Rome, concentrating upon important facets of literature, history, art, and archaeology.

Prereq: Not open to students with credit for Classics 225. GE cultures and ideas and diversity global studies course.

2202H Classical Civilization: Rome U 3

A survey of the civilization of ancient Rome, concentrating upon important facets of literature, history, art, and archaeology.

Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for Clas 2202 (Classics 225) or 225H. GE cultures and ideas and diversity global studies course.

2204 Medicine in the Ancient World U 3

An introduction to the theory and practice of medicine in ancient Greece and Rome.

Prereq: Not open to students with credit for Classics 230. GE cultures and ideas and diversity global studies course.

2205 Sports and Spectacles in the Ancient World U 3

The history and social role of gymnastic and athletic competition in Greece and Rome. The evolution of their modern revivals.

Prereq: Not open to students with credit for Classics 250. GE cultures and ideas course.

2220 Classical Mythology U 3

Personalities and attributes of the Greek and Roman gods and goddesses, their mythology and its influence on Western culture.

Prereq: Not open to students with credit for Classics 222. GE lit and diversity global studies course.

2220H Classical Mythology U 3

Personalities and attributes of the Greek and Roman gods and goddesses, their mythology and its influence on Western culture.

Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for Clas 2220 (Classics 222) or 222H. GE lit and diversity global studies course.

2221 Introduction to the New Testament: History and Literature U 3

Introductory survey of the New Testament writings in translation, including non-canonical sources of the early Christian movement.

Prereq or concr: English 1110.xx, or permission of instructor. Not open to students with credit for 2401, 2401E, 2221E, or History 2221. GE lit and historical study course. Cross-listed in History.

2221E Introduction to the New Testament: History and Literature U 3

Introductory survey of the New Testament writings in translation, including non-canonical sources of the early Christian movement.

Prereq or concr: English 1110.xx, or permission of instructor. Not open to students with credit for 2221, 2401, 2401E, History 2221, or 2221E. GE lit and historical study course. Cross-listed in History.

2222 From Ishtar to Christ: The History of Mediterranean Religions U 3

This course introduces students to the historical facts of 10 ancient Mediterranean religions in a context that trains them to study religions more generally. It also teaches them how two of the most prominent religions today—Judaism and Christianity—succeeded within a richly diverse religious marketplace, and how religions respond to their political, economic, and social environments.

Prereq: Not open to students with credit for RelStds 2222. GE historical study course. Cross-listed in RelStds.

2301 Classical Archaeology U 3

Introduction to the principles, methods, and history of archaeological investigation in the ancient Greek and Roman world, illustrated through a selection of major classical sites.

Prereq: Not open to students with credit for Classics 240, History 2210 (240 or 306), or HistArt 2301 (306). GE cultures and ideas and historical study and diversity global studies course. Cross-listed in History 2210 and HistArt 2301.

2526 Constantinople: The Imperial Capital of Byzantium U 3

A survey of Byzantine civilization, focusing on life in the capital, literature, and the court, Orthodox Christianity, and the formation of Medieval Europe.

Prereq: Not open to students with credit for 2203 (Classics 226) or MedRen 2526 (226). GE cultures and ideas and diversity global studies course. Cross-listed in MedRen.

2798.01 Study Tour U 3 - 9

Specific content, location, semester(s) of offering, and prerequisites vary. Contact department for details.

Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 3 completions.

2798.02 Byzantium - Constantinople - Istanbul: Crossroads of East and West U 3

Traces the evolution of culture, religion, and power in the eastern Mediterranean, focusing on the reception of classical culture by the Byzantine and Ottoman empires and the modern nations of Turkey and Greece. The class will examine how places endowed with cultural and religious meaning have been appropriated or rejected by their successive owners throughout history.

GE cultures and ideas course and diversity global studies course.

3000 From Rome to Europe and Beyond U 3

Survey of the influence Latin as a literary language had on Western cultures from the Middle Ages to the present day.

GE cultures and ideas and historical study course.

3100 Topics in Ancient Literature and Culture U 3

In depth analysis of selected topics in ancient literature and culture. Varies.

Repeatable to a maximum of 6 cr hrs.

3101 Greek and Roman Epic U 3

Study of Greek and Roman epic based on extensive readings in English translation of works by authors such as Homer, Apollonius, Vergil and Ovid.

Prereq: Not open to students with credit for Classics 301.

3102 Greek and Roman Drama U 3

Study of Greek and Roman drama based on extensive readings in English translation of the plays of such authors as Sophocles, Euripides, Menander, Plautus, or Seneca.

Prereq: Not open to students with credit for Classics 302.

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3103	Comic Spirit in Antiquity	U	3	4998	Research	U	1 - 3
	Study of the comic literature of the Greco-Roman world based on extensive readings in English translation drawn from epic, drama, satire, and the novel. Prereq: Not open to students with credit for Classics 303.				A program of study arranged for each student. Prereq: Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.		
3104	The Ancient Novel: Narrative Fiction in Greece and Rome	U	3	4998H	Honors Research	U	1 - 3
	Study of the origins and development of the novel in the ancient world.				A program of study arranged for each student. Prereq: Honors standing, and Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.		
3203	War in Ancient Greek and Roman Literature	U	3	4999	Thesis Research	U	1 - 6
	Study of ancient warfare as a complex political, social, cultural, and economic process through the lens of Greek and Latin literary texts. GE lit course.				A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in classics. Prereq: Jr standing or above, and enrollment in Classics major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.		
3215	Sex and Gender in the Ancient World	U	3	4999H	Honors Thesis Research	U	1 - 6
	Introductory survey of women, gender, and sexual relations in the ancient Mediterranean world, especially Greece and Rome. Prereq: Not open to students with credit for Classics 508 or History 3203. GE historical study and diversity global studies course. Cross-listed in History.				A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in classics. Prereq: Honors standing, Jr standing or above, and Enrollment in Classics Major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.		
3401	Ancient Greek Religion	U	3	5194	Group Studies	U G	1 - 9
	Study of ancient Greek religions, including the beginnings of Christianity. Prereq: Not open to students with credit for Classics 323. GE historical study course.				Topics in classical studies at the upper undergraduate and introductory/intermediate graduate levels. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 27 cr hrs or 9 completions. This course is graded S/U.		
3402	Ancient Gods Changing Identities	U	3	5302	Studies in Greek or Roman Topography	U G	3
	Study of how the ancient Greek gods were represented in art of literature of their own and later historical periods. Prereq: Not open to students with credit for Classics 327. GE lit course.				The topography and archaeology of ancient Athens, Rome, or other sites important to Greco-Roman literature and civilization. Prereq: Not open to students with credit for Classics 656.		
3403	The Hero in Classical Mythology	U	3	5311	Art and Archaeology of Preclassical Greece	U G	3
	The development and interpretation of the major cycles of classical saga based on extensive readings in Greek and Roman epic and drama. Prereq: Not open to students with credit for Classics 322.				Study of the art and archaeology of Ancient Greece from the early Bronze Age (c. 3000 BCE) through the Archaic period (c. 480 BCE). Prereq: HistArt 2001 (201), or 522, or equiv preparation in Classical Studies or Ancient history; or Grad standing. Not open to students with credit for HistArt 5311. Cross-listed in HistArt.		
3404	Magic in the Ancient World	U	3	5312	Art and Archaeology of Classical Greece	U G	3
	An introduction to the theory and practice of magic in the ancient Mediterranean, how people viewed it, and how it survived in later epochs. Prereq: Not open to students with credit for 324. GE cultures and ideas and diversity global studies course.				Study of the art and archaeology of Ancient Greece during the Classical period (c. 480-300 B.C.). Prereq: HistArt 2001 (201) or 2002 (202), or Grad standing; or permission of instructor. Not open to students with credit for HistArt 5312. Cross-listed in HistArt.		
3405	Christians in the Greco-Roman World	U	3	5321	Art and Archaeology of the Hellenistic Mediterranean and Roman Republic	U G	3
	The origins and development of Christianity in its historical, social, and cultural context. Prereq: Not open to students with credit for Classics 325.				Study of the art and archaeology of the Hellenistic Mediterranean, including the Roman Republic. Prereq: HistArt 2001 (201) or 523, or equiv; or Grad standing. Not open to students with credit for HistArt 5321. Cross-listed in HistArt.		
3408	Ancient Roman Religion	U	3	5322	Art and Archaeology of the Roman Empire	U G	3
	Study of religious life and institutions in the Roman Republic and Empire, with due attention to the primary sources, in translation, and their difficulties. GE cultures and ideas and historical study course.				Study of the art and archaeology of Rome and its empire from the accession of Augustus to the time of Constantine (27 BCE-336 CE). Prereq: HistArt 2001 (201) or 2002 (202); or Grad standing; or permission of instructor. Not open to students with credit for HistArt 5322. Cross-listed in HistArt.		
3956	Black Cultures and Classical Education	U	3	5401	Methodologies for the Study of Ancient Religions	U G	3
	Study the role of classics in African and the African Diaspora (US, Caribbean, Brazil). Major themes include: adaptations of classical literature, impact of classical education, classics as a tool of colonial oppression, classics as a tool of anti-colonial resistance, theories of race, classical and classicizing depictions of black bodies. Prereq: Not open to students with credit for AfAmAST 3956. Cross-listed in AfAmAST. GE lit course. GE diversity global studies course.				Introduction to the methodologies and the scholars who have significantly influenced the study of ancient religion. Prereq: Not open to students with credit for NELC 5401. Cross-listed in NELC.		
4031	Sacred Texts of the Ancient World	U	3	5797	Study at a Foreign Institution	U G	1 - 9
	Study of sacred texts from Greece and Rome.				Study at a foreign institution for which the student receives credit from OSU. Prereq: Permission of department chairperson. Repeatable to a maximum of 27 cr hrs or 3 completions. This course is progress graded.		
4101	Classical Receptions: Ancient Greece and Rome in the Modern World	U	3	5798.02	Study Tour: Foreign	U G	3 - 9
	Explorations of the reception of ancient culture in the modern world, from creative cultural engagements to comparative political and social topics.				Specific content, location, semester(s) of offering, and prerequisites vary. Contact department for details. Prereq: Clas 3201.01, 3201.02, or 5302, or permission of department chairperson. Repeatable to a maximum of 27 cr hrs or 3 completions.		
4201	Political Thought and Institutions in the Greco-Roman World	U	3	5881	Odysseus in the Oculus Rift	U G	3
	Selected topics concerning the development of ancient political theory. Prereq: Not open to students with credit for Classics 505.				Team taught with faculty from Dept of Art. Students evaluate intersections of ancient and modern technologies that transform mythical experiences of the future. Use Oculus Rift and other new media technologies to create novel interactions of words, perception and the limits of reality. Create virtual worlds and stories that remix traditional narrative patterns through the technologies of tomorrow. Prereq: Permission of instructor. Not open to students with credit for Art 5881. Cross-listed in Art.		
4204	Greek and Roman Science and Technology	U	3	6780	History of Philology	G	3
	The origins and achievements of Greek and Roman science and technology. Prereq: Not open to students with credit for Classics 506.				A seminar introducing first-year graduate students to methods, instrument and history of research in ancient studies.		
4301	Art of Ancient Greece and Rome	U	3				
	Explores the art of Ancient Greece and the Roman world from the early Bronze Age (c. 3000 BCE) through the era of Constantine (337 CE). While focusing on sculpture, painting and architecture, the approach in this course will also employ the methods of a wide variety of disciplines, including art history, archaeology, anthropology, history, epigraphy and Classical philology. Prereq: Not open to students with credit for HistArt 4301. Cross-listed in HistArt.						
4501	The Good Life: Ancient Ethical Philosophy	U	3				
	Explorations of ancient ethical philosophy, from Socrates to the Hellenistic schools of Epicureanism and Stoicism, including their legacy in later periods.						

Classics 95

7890 Seminar on Classical Literatures and Cultures	G	3
Graduate research seminar on topics that span across Greek and Latin (and occasionally other ancient Mediterranean) texts and cultures.		
Prereq: Grad standing. Repeatable to a maximum of 9 cr hrs.		
7891 Graduate Seminar on Epigraphy	G	3
Graduate research seminar on Greek and/or Latin epigraphy.		
Prereq: Not open to students with credit for Classics 811.		
7892 Graduate Seminar on Greek and Latin Palaeography and Textual Criticism	G	3
Research seminar on Greek and Latin palaeography and textual criticism.		
Prereq: Not open to students with credit for Classics 812.		
7893 Graduate Seminar on Religion and Mythology of the Ancient World	G	3
Graduate research seminar on Greek and/or Roman religion and mythology. Reading knowledge of Greek and/or Latin preferred; special arrangements can be made for exceptional students without reading knowledge.		
Prereq: Not open to students with credit for Classics 870. Repeatable to a maximum of 9 cr hrs.		
7894 Graduate Seminar on Late Antiquity and Byzantium	G	3
Research Seminar on select topics in the history, cultures, and literatures of Late Antiquity and Byzantium.		
Prereq: Not open to students with credit for Classics 890.		
7895 Graduate Seminar on New Testament and Early Christian Literature	G	3
Graduate research seminar on the exegetical problems and current methodologies in the academic study of the New Testament and other early Christian literature. Reading knowledge of Greek preferred; special arrangements can be made for exceptional students without reading knowledge.		
Prereq: Grad standing. Repeatable to a maximum of 9 cr hrs.		
8301 Studies in Ancient Greek and Roman Art	G	4
Advanced study and specialized research on major topical problems in ancient art.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in HistArt.		

Communication

1100 Communication in Society	U	3
Role of communication in society; forms, strategies, theories and issues; interpersonal, group, organizations, public and mass communication.		
Prereq: Not open to students with credit for 200. GE soc sci indivs and groups course.		
1101 History of Communication	U	3
History of human communication from the beginning of spoken and written communication to modern mediated and mass communication.		
Prereq: Not open to students with credit for 101. GE soc sci indivs and groups course.		
1102H History & Theories of Communication	U	3
This is a combination of Comm 1101 History of Communication and Comm 1100 Communication in Society that is open only to honors students. The first half of the course covers the history of human communication from the beginning of spoken and written communication to modern mediated and mass communication. The second half covers the various theoretical approaches to the study of communication.		
Prereq: Honors standing. Not open to students with credit for 1101 (101) or 1100 (200). GE soc sci indivs and groups course.		
2110 Principles of Effective Public Speaking	U	3
A course in critical thinking and public speaking; how to analyze and organize information for oral presentations; basics of public speaking for majors and non-majors.		
Prereq: Not open to students with credit for 321.		
2131 Business and Professional Speaking	U	3
Train students in interpersonal and public speaking in business and professional contexts.		
Prereq: Not open to students with credit for 331.		
2210 News Design	U	3
Explores design principles, perception, critical evaluation, ethics and creativity as they relate to visual media.		
Prereq: Enrollment in Comm or Journal major. Not open to students with credit for 310.		
2221 Media Writing and Editing	U	4
Designed to help students develop the fundamentals of news reporting, writing, and editing across news platforms.		
Prereq: C- or higher in 1100 and 1101, English 1110.xx or equivalent, and enrollment in Comm or Journal; or enrollment in AgrComm major; or permission of instructor. Not open to students with credit for 421 or 422.		
2223 Lantern Practicum	U	4
The practice of journalism as a member of the staff of the Lantern student newspaper and Web news site.		
Prereq: 2221 (421 and 422), or permission of instructor. Repeatable to a maximum of 8 cr hrs.		

2321 Writing for Strategic Communication	U	3
Introduction to, and instruction and practice in writing, reporting, and editing for the strategic communication industries.		
Prereq: Enrollment in AgrComm, Comm, or Journal major; or permission of instructor.		
2331 Strategic Communication Principles	U	3
The role of strategic communication in business, including basic principles of integrated marketing, theory, and ethical standards.		
Prereq: Not open to students with credit for 431. GE soc sci indivs and groups course.		
2367 Persuasive Communication	U	3
Principles of persuasion as reasoned discourse.		
Prereq: Soph standing or above, and English 1110.01 or equiv. Not open to students with credit for 2367H (367H) or 367. GE writing and comm course: level 2.		
2367H Persuasive Communication	U	3
Principles of persuasion as reasoned discourse.		
Prereq: Honors standing and English 1110 (110). Not open to students with credit for Comm 2367 (367). GE writing and comm course: level 2.		
2511 Visual Communication Design	U	3
The examination of visual symbols, graphics, photographs, art, movies and video, and their impact on society.		
Prereq: Enrollment in Comm, Journal or AgrComm major/minor. Not open to students with credit for 311.		
2540 Introduction to Communication Technology	U	3
This course is designed as an introduction to major communication technologies. The course will consider a range of older media and contemporary new media, with a focus on societal, relational, and psychological effects.		
Prereq: Not open to students with credit for 240.		
2596 An Introduction to Health, Environment, Risk & Science Communication	U	3
Provides a general introduction to the fields of science, risk, environmental and health communication from multiple perspectives including psychological, social, and cultural.		
Students will develop a prototype communication intervention or campaign to address a health, safety, or environmental issue drawing on theories and research covered in the course.		
GE cross-disciplinary seminar course.		
2704 Language, Culture & Communication in Latino Health	U	3
Examines how language, culture & communication shape the healthcare experiences of Latinos in the US. Considers the individual & social factors contributing to health inequities and key theories & techniques for developing health communication interventions. Team-taught with a faculty member in the Department of Spanish & Portuguese.		
Prereq: Not open to students with credit for Spanish 2504. GE diversity soc div in the US course. Cross-listed in Spanish 2504.		
3160 Communication Research Methods	U	4
Overview of major empirical methods in communication research.		
Prereq: Stats 135, 145, or equiv. Not open to students with credit for 2160H (460H), 2163 (463), 460, 660, or 663.		
3163 Communication Industry Research Methods	U	4
Overview of major empirical methods in communication industry research.		
Prereq: Stats 135, 145, or equiv. Not open to students with credit for 2160H (460H), 2160 (460), 463, 660, or 663.		
3165 Evaluation and Usability Testing	U	4
Application of electronic research through the design, implementation, and reporting of an online data collection or technology-based project.		
Prereq: Stats 135, 145, or equiv. Not open to students with credit for 650.		
3169 Interviewing	U	4
Theories and practices of mediated and face-to-face question-asking as communicative tools for understanding others' views of events, information, policies, systems, and technologies.		
Prereq: Stats 1350 (135), 1450 (145), or equiv. Not open to students with credit for 672.		
3189 Freelance Journalism Experience	U	1 - 3
Practicing journalism as a freelance reporter.		
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.		
3224 Principles of Civic Journalism	U	3
The role of traditional practices of journalism in contributing to citizen apathy and disengagement, as well as what can be done to enhance citizen understanding, learning and active participation in democratic society.		
Prereq: Not open to students with credit for 424.		
3225 Photojournalism	U	3
Practice in journalistic and documentary photography.		
3226 Multimedia Journalism	U	4
Multimedia journalism, including relevant theories and practices, and hands-on instruction and experience creating an original news-oriented web site.		
Prereq: 2221 (421 and 422), or permission of instructor. Not open to students with credit for 426.		

96 Communication

3325	Introduction to Organizational Communication	U	3	3513	Video Games and the Individual	U	3
	Addresses prior and current approaches to the study of organizational communication.				A broad overview of the effects of video game play on the individual. Students critique the literature on this topic and design their own study to test video game effects.		
	Prereq: Not open to students with credit for 325.				Prereq: Not open to students with credit for 513.		
3330	Communication and Conflict Management	U	3	3545	Human-Computer Interaction	U	3
	An overview of the communication and conflict literature with emphasis on effective conflict management.				Principles and issues associated with human interaction with computers.		
	Prereq: Not open to students with credit for 3330H (531H) or 531.				Prereq: Not open to students with credit for 450.		
3331	Communication and Decision Making	U	3	3554	Social Implications of Communication Technology	U	3
	Decision-making as a process; comparisons between interpersonal, bargaining-negotiation contexts, and group organizations; descriptive and prescriptive models of decision-making in small groups and organizations.				Analyze the individual, interpersonal, and societal impact of digital and Internet technologies such as blogs, wikis, online dating sites, mobile telephony, texting, apps, social media sites, video games, virtual reality, and online virtual worlds. Covers important issues that cut across multiple technologies, such as privacy, digital deception, and cyberbullying.		
	Prereq: Not open to students with credit for 631.				Prereq: Not open to students with credit for 654.		
3332	Risk Communication	U	3	3597.01	International Perspectives on Communication	U	3
	Students will learn how to plan, implement and evaluate a risk communication effort. Message design is an integral part of this class.				Perspectives on communication media from different parts of the world.		
	Prereq: Not open to students with credit for 632.				Prereq: Not open to students with credit for 597. GE diversity global studies and cross-disciplinary seminar course.		
3333	Crisis Communication	U	3	3597.02	Media and Terrorism	U	3
	Managing strategic communication efforts during a crisis.				Focuses on the portrayal of terrorism in the media and on how terrorists use the media to influence public opinion.		
3334	Strategic Message Design	U	3		Prereq: Jr or Sr standing. Not open to students with credit for 597.01. GE diversity global studies and cross-disciplinary seminar course.		
	Message development for marketing communications - strategic communications writing.			3620	Introduction to Interpersonal Communication	U	3
	Prereq: Enrollment in Comm, Journal, or AgrComm major/minor. Not open to students with credit for 634.				Analysis of the role of interpersonal communication to begin relationships, achieve intimacy, sustain a certain relational status and terminate relationships.		
3340	Principles of Environmental Campaigns	U	3		Prereq: Not open to students with credit for 320.		
	A seminar on the principles of strategic communication and campaigns around environmental and risk topics such as green marketing & advertising, environmental advocacy, social marketing, and environmental risk.			3624	Communication in Personal Relationships	U	3
3345	Strategic Media Planning	U	3		Advanced level survey of theory and research concerning the role of communication in the development, maintenance, and decay of interpersonal relationships.		
	Media planning for students interested in careers in advertising, public relations and other forms of strategic communication.				Prereq: Not open to students with credit for 624.		
	Prereq: 2331 (431), and enrollment in Journ or Comm major, or permission of instructor. Not open to students with credit for 545.			3628	Contemporary Persuasion Theory	U	3
3402	Crime and the News Media	U	3		Persuasive campaigns in mass audience settings; persuasion in interpersonal contexts, including organizations, family and personal relationships.		
	Study of the nature of news coverage of crime and the criminal justice system, and the implications for individuals, social groups, and society.				Prereq: Not open to students with credit for 628.		
	Prereq: Not open to students with credit for 502.			3629	Language and Social Interaction	U	3
3403	Sports Media	U	3		Examination of perspectives on and ways to analyze language use in everyday contexts, discourse in society, implications for communication theory, practice, and competencies.		
	This class will teach sports reporting, writing and broadcasting across all media- legacy media reporter, web-based blogger, broadcaster (video/audio) and social media poster. We will explore interviewing, beat reporting, enterprise reporting, access, working with coaches and athletic directors, and press conferences. We also focus on ethical issues related to sports coverage.				Prereq: Not open to students with credit for 629.		
3404	Media Law and Ethics	U	3	3662	Communication and Gender	U	3
	This course will explore the theory, history, and ethical issues associated with free speech and free press areas of the First Amendment. Students will analyze key legal and ethical issues that affect journalism and media, with a focus on cases that have shaped media law and theories that help journalism professionals make decisions.				Examination of contemporary communication theory, method, and practice relevant to gender issues.		
	Prereq: Not open to students with credit for 3404H.				Prereq: Not open to students with credit for 662.		
3405	Introduction to Lantern TV	U	3	3667	Nonverbal Communication	U	3
	This course will prepare students to work in television news. There will be a particular focus on writing, editing, and shooting video. Students will apply knowledge by creating and presenting news content. Students will leave this course ready for internships at television stations or Internet news outlets.				Theory and research on communication that does not use words.		
	Prereq: Theatre 3351, or permission of instructor.				Prereq: Not open to students with credit for 435.		
3413	Media Entertainment	U	3	3668	Intercultural Communication	U	3
	Explores speculation, theory, and research regarding effects and appeal of media entertainment, emphasizing emotional reactions.				An examination of the role of intercultural communication in organizational contexts and the attendant effects on the creation and transmission of cultural consciousness, knowledge, tradition, and practices.		
	Prereq: Not open to students with credit for 613.				Prereq: Not open to students with credit for 368.		
3425	Media Management	U	3	4190	Journalism and Communication Co-Operative Learning Experience	U	0 - 12
	Introduction to media management with a focus on how issues of management apply to various media.				Allows students to participate in a full immersion professional experience in a career-related position.		
	Prereq: Not open to students with credit for 425.				Prereq: Permission of instructor. Repeatable. This course is graded S/U.		
3440	Mass Communication and Society	U	3	4191	Internship	U	1 - 3
	This course is designed to promote an understanding of basic mass communication practice.				On-the-job internships in communication practice or research conducted under supervision of internship coordinator through the undergraduate advising office.		
	Prereq: Not open to students with credit for 642.				Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.		
3442	Violence in Society and Violence in the Media	U	3	4193	Individual Studies	U	1 - 3
	Issues in the psychology of media presentations of violence.				Students make extensive and significant studies in the field of journalism or communication.		
	Prereq: Not open to students with credit for 442 or 2442. GE soc sci indivs and groups course.				Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.		
3444	Advertising and Society	U	3	4194	Group Studies	U	1 - 12
	Examination of positive and negative contributions of advertising in the American mass media system to society from political, sociological, and economic perspectives.				Regular class meetings and group discussion of specified problems.		
	Prereq: Not open to students with credit for 644.				Repeatable.		
4202	Feature Writing	U	3	4202	Feature Writing	U	3
	This hands-on, active-learning course will teach students how to identify, research, report and write non-fiction feature articles that combine fact-based journalistic writing with non-fiction writing techniques, including characters development, description and narrative arc.						

Communication 97

4221 Data Journalism in Enterprise Reporting

U 4

A capstone experience devoted to enterprise journalism that springs from computer assisted reporting techniques and presented through the use of traditional print and multimedia journalism.

Prereq: 2221 (421 and 422), and enrollment in Comm, Journal, or AgrComm major. Not open to students with credit for 621.

4240 Science Communication

U 3

Explores the structure, meanings and implications of "science communication" with an emphasis on how values, attitudes, social structure, and communication affect public perceptions of science and technology.

Prereq: Not open to students with credit for 4240H (640H), 3240H, or 640.

4337 Public Communication Campaigns

U 4

Application of management techniques to public relations; public relations strategy; campaign development.

Prereq: 2331 (431), and enrollment in Comm or Journal major; or permission of instructor. Not open to students with credit for 637.

4401 Mass Communication and Youth

U 3

Introduction to theories and research on the uses and effects of media on children and adolescents, including discussion of interventions.

Prereq: Not open to students with credit for 501.

4406 Development of Mass Media in America

U 3

Major currents and trends basic in the shaping of the mass media in the United States. Prereq: Not open to students with credit for 406H (606H) or 606.

4445 Stereotypes in Media

U 3

Expose students to the existence and impact of stereotypes in various forms of media. Prereq: Not open to students with credit for 645.

4511 User-Centered Communication Design

U 3

Concepts and principles of user-centered design and application of skills to multimedia design. Prereq: Comm 2511 (311), or Design 320, 570, 571, or 573, or permission of instructor. Not open to students with credit for 611.

4554 Social Media

U 3

Examination of social media and their impact on social interactions.

4555 Computer Interface and Human Identity

U 3

Surveys computer phenomena such as artificial intelligence, agents, avatars, virtual worlds, and humanoid robots, and identities such as humanness, race, gender and sexuality. Prereq: Not open to students with credit for 655.

4556 Information Technology and Organizational Communication

U 3

Focus on the role of various technologies within organizations and for work team members. Prereq: Not open to students with credit for 656.

4557 Communication Network Infrastructure

U 3

Introduction to the concepts and principles that underlie contemporary telecommunication networks with the opportunity to apply these concepts to the analysis of novel systems. Prereq: 2540 (240). Not open to students with credit for 657.

4558 Social Media Analytics

U 3

This course is an introduction to analyzing social media data. Students will learn how to operate an established analytics platform and complete a novel research project using real world social media data. Students will learn how to tackle industry and academic research problems using social media logs and metrics. Prereq: 3160, 3163, or 3165.

4600 Communication and Emotion

U 3

Introduction to research about emotion in mediated communication. Applications in domains of students' choice (e.g. sports communication, entertainment, advertising, online communication, news, public affairs communication, etc.).

4635 Small Group Communication

U 3

Examination of selected topics in small group communication such as: communication in decision making, conflict management, effective small group practice, current small group communication concepts and research, use of communication technologies. Prereq: Not open to students with credit for 635.

4665 Human Communication in Social Networks

U 3

Communication creates a relationship between individuals in various ways, and the large set of these relationships form networks. In this class, our task will be to observe and understand the various ways in which communication may be directly observed or inferred and the consequences that such communication has for humans who are embedded in networks.

4736 Health Communication in Interpersonal Contexts

U 3

Study of communication relevant to health care in various face-to-face contexts.

Prereq: Not open to students with credit for 636.01.

4737 Health Communication in Mass Mediated Contexts

U 3

Overview of theory and research related to the role of mass media as they affect the public's health behavior.

Prereq: Not open to students with credit for 636.02.

4738 Health Communication and New Media

U 3

Focuses on the current and future uses of technology in health communication with an emphasis on technology in both patient-provider relationships and health campaigns.

Prereq: Not open to students with credit for 638.

4797 Study at a Foreign Institution

U 1 - 12

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Prereq: Permission of department chair. Repeatable to a maximum of 36 cr hrs or 36 completions. This course is progress graded.

4814 Political Communication

U 3

Analysis of the roles played by the mass media, public leaders, and accidental circumstances in the development of issues and images in contemporary American political communication.

Prereq: Enrollment in Comm or Journal major, or permission of instructor. Not open to students with credit for 614.

4820 Public Opinion and Communication

U 3

Investigation of public opinion from social, political, and psychological perspectives, and study of the role communication (including the media) plays in the process.

Prereq: Not open to students with credit for 620 or 620H.

4998 Undergraduate Research

U 1 - 15

Supervised collaborative research in Communication.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 8 completions. This course is graded S/U.

4999 Thesis Research

U 1 - 12

Individualized instruction in an independent research project.

Prereq: A grade of A in at least half of all Comm courses taken and an average of B in the remainder, and Jr or Sr standing in Journalism or Communication, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

4999H Honors Thesis Research

U 1 - 12

Individual advising for an honors thesis project.

Prereq: Honors and Sr. standing in Comm or Journal and permission of instructor. Not open to students with credit for 783H. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

6500 Introduction to Graduate Study

G 1

An overview of graduate study in Communication. Research and teaching resources, procedures, and expectations, areas of study and faculty interests.

Prereq: Grad standing, or instructor permission and Grad School approval for undergrad credit. This course is graded S/U.

6661 Statistical Applications in Communication I

G 3

Fundamental principles of statistics commonly used in communication research.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 661.

6701 Working with Communication Data

G 3

Techniques for coding, entering and maintaining data sets in preparation for thesis or other research activities. Includes logical coding, documentation, mapping responses to numerical representations, assessing reliability, merging files, maintaining confidentiality via ID codes and other topics.

Prereq: Grad standing.

6760 Communication Research Methods

G 3

An overview of empirical research methods in communication.

Prereq: Grad standing. Not open to students with credit for 760.

6806 Contemporary Theories of Communication

G 3

Overview of contemporary approaches to the study of communication.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 806.

6807 Foundations of Communication Theory

G 3

A historical overview of the major theories and research that led to the development of the field of communication.

Prereq: 6806 (806) and Grad standing; or permission of instructor. Not open to students with credit for 807.

7710 Introduction to Social Networks

G 3

Focuses on the theoretical and methodological bases of social network analysis.

Prereq: Grad standing, and enrollment in Comm or Sociol program; or permission of instructor. Not open to students with credit for Sociol 7710. Cross-listed in Sociol.

7712 Seminar in Social Networks

G 3

The theory, substance, and methods for understanding patterns, causes, and consequences of relationships among populations of actors. Sociol 6649 and 6581 recommended.

Prereq: Grad standing, and enrollment in Comm or Sociol program; or permission of instructor. Not open to students with credit for Sociol 7712. Cross-listed in Sociol.

7713 Political Communication

G 3

A graduate-level examination of the role of communication in American politics, acquainting the student with the literature on political communication and stimulating ideas for original research in the field of political communication.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 713. Cross-listed in PolitSc 7168.

98 Communication

7789 Survey Research Practicum G 3

Hands-on applications for students interested in the planning, implementation and analysis of a scientific sample survey.

Prereq: Admission to grad survey research, or permission of instructor. Not open to students with credit for 7789 or 789 in Econ, PolitSc, Stat, ADEcon, AgrEduc, BusML, EduPL, Geog, Psych, PubHlth, or PubAfrs. Cross-listed in PolitSc, Econ, and Stat.

7790 Statistical Applications in Communication II G 3

Survey of research methods and practical experience in conducting a research project.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 790.

7802 Narrative and Communication G 3

Integrated reading and research in communication narrative.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 802.

7813 Public Opinion and Communication G 3

Discusses the central role of communication in the concept of public opinion. Reviews research on the influence of communication on public opinion direction and quality.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 813.

7840 Mass Communication and the Individual G 3

Survey of theory and research in mass communication dealing with psychological aspects of mass communication.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 840.

7841 Mass Communication and the Social System G 3

Survey of mass communication theory at the macro or sociological level. Seminar covers social theories shaping media content and theories of media influence or effects.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 841.

7850 Communication Technology G 3

Theory and research on the uses and effects of communication technology.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 850.

7851 Human-Computer Interaction G 3

This course is one of two seminars offered as part of the communication technology focus area of the School of Communication graduate program. The focus of this course is on experiences with technology, including technological adoption and use; affordances across digital platforms; usability; and elements of interface design and their psychological, interpersonal, social and cultural implications.

7870 Media, Campaigns and Health G 3

How mediated communication can influence human behavior and public policy in ways that can improve (or can negatively impact) human health and well-being.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 870.

7871 Health Communication in Interpersonal Settings G 3

Introduce students to the research and theories comprising contemporary literature in health communication in interpersonal settings.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 871.

7890 Colloquium G 1

Colloquium.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

7927 Theory Construction G 3

The formal principles of theory and model construction function as criteria for examining the strengths and weaknesses of communication research models.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 927.

7998 Directed Research G 1 - 3

Directed research.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 27 cr hrs or 9 completions. This course is graded S/U.

7999 Thesis Research G 1 - 12

Thesis research.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.

8193 Directed Reading G 1 - 3

Directed reading.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8801 Special Topics in Communication Research Methods G 3

In-depth study of particular methods in the field of communication.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

8930 Special Topics in Interpersonal Communication G 3

Advanced seminar on current research in interpersonal communication.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8940 Special Topics in Mass Communication G 3

Advanced seminar on current research in mass communication.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8970 Special Topics in Communication G 3

Advanced seminar on current research cutting across sub-fields of communication.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

8999 Dissertation Research G 1 - 6

Dissertation research.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

Community Leadership

1100 Exploring Agricultural Communication, Education, and Leadership U 1/2

Basic understanding of global trends within agricultural communication, agricultural education, and community leadership, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.

2189 Early Experience in Community and Extension Education U 1

The early experience program is designed to help students explore careers and gain experience in Community and Extension Education.

Prereq: Permission of instructor. Not open to students with credit for AEE 280.

2193 Individual Studies U 1 - 3

Planning, conducting, and reporting a special study appropriate to the needs of the student.

Prereq: CPHR 2.50 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is progress graded (S/U).

2194 Group Studies U 1 - 5

Group studies for students in specialized programs.

Repeatable to a maximum of 10 cr hrs or 5 completions.

2530 Introduction to Agricultural Communication, Education, and Leadership U 2

Creating an awareness and understanding of the agricultural communication, education and leadership profession. The class will provide a basis for educating, communicating, and leading by synthesizing theoretical knowledge with practical application.

Prereq: Not open to students with credit for AEE 230 or AgrComm 200.

2530E Introduction to Agricultural Communication, Education, and Leadership U 2

Creation of an awareness and understanding of the agricultural communication, education and leadership profession. Provides a basis for educating, communicating, and leading by synthesizing theoretical knowledge and practical application.

Prereq: Honors standing.

3330 Program Development and Evaluation U 3

Introductory skills necessary to develop, deliver, and evaluate educational programs. Students will examine the principles, methods, and models of program development and evaluation.

3530 Foundations of Personal and Professional Leadership U 3

Leadership theories, principles, and concepts. Research-based theories, methods of social scientific inquiry, individual strengths, personal leadership philosophy and vision, concepts of diversity and ethics, and professional development plan.

Prereq: Not open to students with credit for AEE 342.

3530E Foundations of Personal and Professional Leadership U 3

Leadership theories, principles, and concepts. Research-based theories, methods of social scientific inquiry, individual strengths, personal leadership philosophy and vision, concepts of diversity and ethics, and professional development plan.

Prereq: Honors standing. Not open to students with credit for AEE 342.

3535 Toward Cultural Proficiency U 3

Learner effectiveness in multicultural, multiracial learning environments. Strategies for obtaining insight into learners from varied cultures. Theory will connect practice through service-learning using cognitive, affective and psychomotor domains.

Prereq: Not open to students with credit for AEE 594. GE cultures and ideas and diversity soc div in the US course.

3537 Data Analysis in the Applied Sciences U 3

The purpose of this course is to develop an overview and basic understanding of descriptive and inferential statistics.

Prereq: Math 1130 (130) or 1148 (148). Not open to students with credit for AEE 387. GE data only course. MA Admis Cond course.

4191 Internship in Community Leadership U 1 - 2

Provides students in the Community Leadership program with an experiential learning opportunity to practice and apply knowledge and skills learned in an authentic setting. Open to Community Leadership Majors with a Leadership Specialization.

Prereq: Enrollment in ComLdr major with Leadership Specialization, and permission of instructor. Not open to students with credit for AEE 489. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

4194 Group Studies in Community Leadership U 1 - 3

Specialized topics in leadership or community and extension education.

Repeatable to a maximum of 10 cr hrs or 5 completions.

4430 Leadership in Teams and Community Organizations	U 3
Principles and strategies involved in leading teams and community organizations. Students will examine leadership dynamics in small groups and reflect on applications in various settings. Team service project with student or community organization.	
Prereq: Not open to students with credit for AEE 442.	
4480 Capstone in Leadership	U 3 - 4
Application of leadership theories, principles, concepts, and skills in a setting aligned with the student's academic and/or career interests. Students will plan, conduct, reflect, and report the project in conjunction with a faculty supervisor.	
Prereq: Permission of instructor. This course is graded S/U.	
4530 Senior Transition from College	U 3
Designed to serve as a "transition" course for seniors at The Ohio State University, preparing them for their first professional position. Students will synthesize their knowledge and skills developed while at OSU and learn how transition those talents into practical application.	
Prereq: Sr standing.	
4998 Undergraduate Research	U 1 - 10
Conducting and reporting an undergraduate research project.	
Prereq: Permission of instructor. This course is graded S/U.	
4999 Research with Distinction	U 1 - 6
Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.	
Prereq: GPA 3.0 or above, and GPA 3.0 or above in major, and permission of project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.	
4999H Research with Distinction - Honors	U 1 - 6
Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the University's Denman Undergraduate Research Forum.	
Prereq: Honors standing, and FAES 4590.01H (590.01H), and CPHR 3.4 or above, and GPA 3.4 or above in major, and permission of honors project supervisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.	
5193 Individual Studies in Community Leadership	U G 1 - 3
Planning, conducting and reporting a special study appropriate to the needs of the student.	
Prereq: CPHR 2.50 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.	
5194 Group Studies in Community Leadership	U G 1 - 3
Group studies for student in specialized programs.	
Repeatable to a maximum of 10 cr hrs or 5 completions.	
5330 Methods of Teaching in Nonformal Learning Environments	U G 3
Examining the teaching and learning process with emphasis on planning and delivering agricultural instruction for agribusiness, extension, and non-formal learning environments.	
5335 Volunteer and Human Resource Management	U G 3
Introductory skills in volunteer and human resource management for working in educational and non-profit organizations with paid and unpaid staff. Examination of principles, methods, and models and application with case studies.	
Prereq: Not open to students with credit for AEE 795.02.	
5350 Youth Organizations and Program Management	U G 4
Introduction to and analysis of youth organizations and youth program management. Theories, principles, and key concepts important for assuming leadership roles in contemporary youth organizations.	
Prereq: Not open to students with credit for both AEE 642 and 643.	
5380 Internship in Community and Extension Education	U G 4
Under the supervision of a Departmental faculty instructor and daily leadership of an experienced Extension educator at the county level, students will enhance their professional and technical competencies in Extension education.	
Concur: 5381 and 5382.	
5381 Capstone in Community and Extension Education	U G 4
The capstone brings together a student's theory and programmatic work during their undergraduate career and applies it to a cohesive pattern that related to applied professional Extension work settings.	
Concur: 5380 and 5382.	
5382 Issues in Community and Extension Education	U G 4
Explore past, current, and potential trends and issues related to Extension programming and apply them to professional settings. Students will learn about contemporary issues and how to use futuring and strategic planning tools to address the issues.	
Concur: 5380 and 5381.	
5430 Professional Leadership Ethics	U G 3
Discussion of public debates over the ethics and integrity of leadership from recent years. These debates and continued exposure of unethical behaviors by some leaders has spurred new examinations of how those who are responsible to the public.	
Prereq: Not open to students with credit for AgrComm 600.	

Comparative Studies

1100 Intro to the Humanities: Cross-Cultural Perspectives	U 3
Explores the role of literature and the arts in constructing, maintaining, and questioning the values and beliefs of diverse cultures and historical periods; topics vary.	
Prereq: Not open to students with credit for 1100H (100H) or 100. GE lit and diversity global studies course.	
1100H Intro to the Humanities: Cross-Cultural Perspectives	U 3
Explores the role of literature and the arts in constructing, maintaining, and questioning the values and beliefs of diverse cultures and historical periods; topics vary.	
Prereq: Honors standing. Not open to students with credit for 1100 (100H, 100). GE lit and diversity global studies course.	
2099 The Question of Comparative Studies	U 1
This course offers an introduction to the Comparative Studies major. It is designed to help students to take advantage of curricular, research, and advising opportunities; to manage the particular challenges of independent and interdisciplinary work; to link classroom work to social and political engagement with relevant communities; and to prepare for life after graduation. This course is graded S/U.	
2101 Literature and Society	U 3
Study of relationships among politics, society, and literature; analysis of social and political elements of literature and film from diverse cultures and historical periods.	
Prereq: English 1110 (110) or equiv. Not open to students with credit for 2101H (201H, 201). GE lit and diversity global studies course.	
2101H Literature and Society	U 3
Study of relationships among politics, society, and literature; analysis of social and political elements of literature and film from diverse cultures and historical periods.	
Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 2101 (201, 201H). GE lit and diversity global studies.	
2103 Literature and the Self	U 3
Study of relationships between psychology and literature; analysis of psychological concepts and processes as represented in literature and film of diverse cultures and historical periods.	
Prereq: English 1110 (110) or equiv. Not open to students with credit for 2103H (203H) or 203. GE lit and diversity global studies course.	
2103H Literature and the Self	U 3
Study of relationships between psychology and literature; analysis of psychological concepts and processes as represented in literature and film of diverse cultures and historical periods.	
Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 2103 (203H, 203). GE lit and diversity global studies course.	
2104 Literature, Science, and Technology	U 3
Study of relationships among literature, science, and technology; analysis of representations of science and technology in literature and film of diverse cultures and historical periods.	
Prereq: English 1110 (110) or equiv. Not open to students with credit for 2104H (204H) or 204. GE lit and diversity global studies course.	
2104H Literature, Science, and Technology	U 3
Study of relationships among literature, science, and technology; analysis of representations of science and technology in literature and film of diverse cultures and historical periods.	
Prereq: Honors standing and English 1110 (110) or equiv. Not open to students with credit for 2104 (204H, 204). GE lit and diversity global studies course.	
2105 Literature and Ethnicity	U 3
Study of relationships between literature and ethnicity; analysis of concepts of ethnicity as represented in literature and film of diverse cultures and historical periods.	
Prereq: English 1110 (110) or equiv. Not open to students with credit for 205. GE lit and diversity soc div in the US course.	
2193 Individual Studies	U 1 - 3
Designed to give students an opportunity for personal study with a member of the faculty. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.	
2194 Group Studies	U 1 - 3
Designed to give groups of students an opportunity to pursue special studies not otherwise offered.	
Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.	
2194H Group Studies	U 1 - 3
Designed to give groups of students an opportunity to pursue special studies not otherwise offered.	
Prereq: Honors standing or permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.	
2214 Introduction to Sexuality Studies	U 3
Provides an introduction to sexuality studies through an interdisciplinary approach. To apply the knowledge learned, this course requires a fieldwork component.	
Prereq: Not open to students with credit for 214, EduPAES 214, or SxlySt 2214. GE diversity soc div in the US course. Cross-listed in SxlySt.	

100 Comparative Studies

2220	Introduction to South Asian Studies	U	3	
A multi-disciplinary introduction to South Asia's geographical, political, cultural, and religious contexts and connections.				
Prereq: English 1110 (110) or equiv. Not open to students with credit for ArtsSci 265 or NELC 2220. Cross-listed in NELC. GE cultures and ideas and diversity global studies course.				
2264	Introduction to Popular Culture Studies	U	3	
Introduction to the analysis of popular culture texts, with special emphasis on the relationship between popular culture studies and literary studies.				
Prereq: English 1110 (110) or equiv. Not open to students with credit for 264, or English 2264 (264). Cross-listed in English. GE cultures and ideas course.				
2281	American Icons	U	3	
Interdisciplinary methods in American studies; emphasis on the plurality of identities in American culture.				
Prereq: English 1110 (110) or equiv. Not open to students with credit for 234. GE cultures and ideas and diversity soc div in the US course.				
2301	Introduction to World Literature	U	3	
Analysis of oral and written literatures of diverse cultures and historical periods.				
Prereq: English 1110 (110), or equiv. Not open to students with credit for 273. GE lit and diversity global studies course.				
2321	Introduction to Asian American Studies	U	3	
Introduction to Asian American studies; history, experiences, and cultural production of Americans of Chinese, Japanese, Korean, South Asian, Filipino, and Southeast Asian ancestry.				
Prereq: English 1110 (110), or equiv. Not open to students with credit for 241. GE cultures and ideas course and diversity soc div in the US course.				
2322	Introduction to Latino Studies	U	3	
Introduction to Latino studies; history, politics, and cultural production of Latino/a communities in the U.S. and its borderlands.				
Prereq: English 1110 (110) or equiv. Not open to students with credit for 242, or Spanish 2242. GE cultures and ideas and diversity soc div in the US course. Cross-listed in Spanish 2242.				
2323	Introduction to American Indian Studies	U	3	
Explores the legal, cultural, historic, and political foundations, experiences, and perspectives and futures of American Indians in the U.S.				
Prereq: English 1110 or equiv. GE cultures and ideas and diversity soc div in the US course.				
2340	Introduction to Cultures of Science and Technology	U	3	
Critical analysis of the multiple relations of science to society, with emphasis on knowledge, power, authority, values, and ethics.				
Prereq: English 1110 (110), or equiv. Not open to students with credit for 2341 (272). GE cultures and ideas and diversity global studies course.				
2341	Technology, Science, and Society	U	3	
Critical analysis of the relations among science, technology, and culture, with particular emphasis on ethical issues in technology and engineering.				
Prereq: English 1110.01 (110.01) or equiv. Not open to students with credit for 2340 (272). GE cultures and ideas and diversity global studies course.				
2350	Introduction to Folklore	U	3	
A general study of the field of folklore including basic approaches and a survey of primary folk materials: folktales, legends, folksongs, ballads, and folk beliefs.				
Prereq: English 1110 (110) or equiv. Not open to students with credit for English 2270 (270), or 2350H. GE cultures and ideas course. Cross-listed in English 2270.				
2350H	Introduction to Folklore	U	3	
A general study of the field of folklore including basic approaches and a survey of primary folk materials: folktales, legends, folksongs, ballads, and folk beliefs.				
Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 2350, English 2270 (270), or 2270H. GE cultures and ideas course. Cross-listed in English 2270H.				
2360	Introduction to Comparative Cultural Studies	U	3	
Introduction to interdisciplinary field of cultural studies; emphasis on relation of cultural production to power, knowledge, and authority, globally and locally.				
Prereq: English 1110 (110) or equiv. Not open to students with credit for 274. GE cultures and ideas course.				
2367.02	U.S. Latino Identity	U	3	
Latino/a identity in the U.S.; emphasis on Latino/a cultural history and expression and on role of race, class, gender, and sexuality in identity construction.				
Prereq: English 1110 (110) or equiv, and Soph standing. Not open to students with credit for 367.04. GE writing and comm: level 2 and diversity soc div in the US course.				
2367.04	Science and Technology in American Culture	U	3	
Role of science and technology in contemporary American society; their relationship to human values; sources of concern about their impact; evaluation of selected issues.				
Prereq: English 1110 (110), or equiv, and Soph standing. Not open to students with credit for 2367.04H (367.02H) or 367.02. GE writing and comm: level 2 and cultures and ideas and diversity soc div in the US course.				
2367.07	Religious Diversity in America	U	3	
Exploration of the concept of religious freedom and the position of minority religious groups in American society.				
Prereq: English 1110 (110) or equiv and Soph standing. Not open to students with credit for 367.03. GE writing and comm: level 2 and cultures and ideas and diversity soc div in the US course.				
2367.08	American Identity in the World	U	3	
American culture viewed from inside and from the perspective of foreign cultures, as seen in literature, film, art, music, journalism, folklore, and popular culture.				
Prereq: English 1110 (110), or equiv, and Soph standing. Not open to students with credit for 2367.08H (367.01H) or 367.01. GE writing and comm: level 2 and cultures and ideas and diversity soc div in the US course.				
2367.08H	American Identity in the World	U	3	
American culture viewed from inside and from the perspective of foreign cultures, as seen in literature, film, art, music, journalism, folklore, and popular culture.				
Prereq: Honors and Soph standing, and English 1110 (110) or equiv. Not open to students with credit for 2367.08 (367.01H, 367.01). GE writing and comm: level 2 and cultures and ideas and diversity soc div in the US course.				
2689	City and Culture in the U.S.	U	3	
Interdisciplinary perspectives on the development, accuracy, and influence of popular images and stereotypes of city and country.				
Prereq: English 1110 (110) or equiv. Not open to students with credit for 239.				
2797	Introductory Study at a Foreign Institution	U	1 - 30	
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.				
Prereq: Permission of Department. Repeatable to a maximum of 30 cr hrs.				
2864H	Modernity and Postmodernity: Issues and Ideas	U	3	
Examination of some of the defining ideas of modern thought and how those ideas have problematically affected modern life in both developed and developing countries.				
Prereq: Honors standing and English 1110 (110) or equiv. Not open to students with credit for 240H or 240. GE lit and diversity global studies course.				
3302	Translating Literatures and Cultures	U	3	
Introduction to issues and problems inherent to translating literatures and cultures.				
Prereq: English 1110 (110), or equiv. Not open to students with credit for 3302E (373E) or 373. GE cultures and ideas and diversity global studies course.				
3302E	Translating Literatures and Cultures	U	3	
Introduction to issues and problems inherent to translating literatures and cultures.				
Prereq: Honors standing, and English 1110 (110), or equiv. Not open to students with credit for 3302 (373) or 373E. GE cultures and ideas and diversity global studies course.				
3360	Introduction to Globalization and Culture	U	3	
History and contemporary dimensions of globalization, focusing on period preceding European hegemony, era of European colonialism, period of decolonization, and contemporary contexts.				
Prereq: Soph standing, or permission of instructor. Not open to students with credit for 357.				
3501	Humanitarianism in Question	U	3	
This course addresses questions related to the history, practices, institutional dimensions, impact, criticism, and function of humanitarian and philanthropic work. Students learn about relationships between donors and targeted communities, both domestically and abroad. Discussions reflect upon reasons for giving, the goals of the supported initiatives, and mechanisms for evaluating success.				
Repeatable to a maximum of 6 cr hrs. GE cultures and ideas course.				
3603	Love in World Literature	U	3	
Representations of love in world literature; emphasis on mythological, psychological, and ideological aspects of selected representations in different cultures and time periods.				
Prereq: English 1110 (110), or equiv. Not open to students with credit for 3603H (301H) or 301. GE lit and diversity global studies course.				
3603H	Love in World Literature	U	3	
Representations of love in world literature; emphasis on mythological, psychological, and ideological aspects of selected representations in different cultures and time periods.				
Prereq: Honors standing and English 1110 (110) or equiv. Not open to students with credit for 3603 (301H, 301). GE lit and diversity global studies course.				
3606	The Quest in World Literature	U	3	
Motif of the quest in world literature; physical and mental journeys as metaphors of personal transformation and salvation.				
Prereq: English 1110 (110) or equiv. Not open to students with credit for 306. GE lit and diversity global studies course.				
3607	Film and Literature as Narrative Art	U	3	
Relationships between film and literature; emergence of cinematic art as a form of representation with emphasis on diverse cultural traditions.				
Prereq: English 1110 (110) or equiv. Not open to students with credit for 3607H (358H, 358). GE VPA and diversity global studies course.				

3607H Film and Literature as Narrative Art	U	3	3990 Approaches to Comparative Studies	U	3
Relationships between film and literature; emergence of cinematic art as a form of representation with emphasis on diverse cultural traditions.			Introduces comparative studies majors to theoretical tools, methods of investigation, and key concepts in comparative studies research and scholarship.		
Prereq: Honors standing and English 1110 (110) or equiv. Not open to students with credit for 3607 (358H, 358). GE VPA and diversity global studies course.			Prereq: English 1110 (110) or equiv. CompStd major, or permission of instructor. Not open to students with credit for 398.		
3608 Representations of the Experience of War	U	3	4191 Research Internship in Comparative Studies	U	1 - 3
Representations of war in works of literature, religious texts, and film from diverse cultures and time periods.			Intensive research experience in Comparative Studies; individualized research training; students collaborate closely with faculty member on research project; projects either student-initiated or faculty research.		
Prereq: English 1110 (110) or equiv. Not open to students with credit for 308. GE lit and diversity global studies course.			Prereq: English 1110 (110) or equiv. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		
3620 Everyday Life in South Asia	U	3	4193 Individual Studies	U	1 - 3
An examination of everyday life as experienced by members of the culturally diverse population of South Asia.			Designed to give students an opportunity for personal study with a member of the faculty.		
Prereq: English 1110 (110), or equiv. Not open to students with credit for NELC 3620 (380). GE cultures and ideas course. Cross-listed in NELC.			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		
3645 Cultures of Medicine	U	3	4597.01 Global Studies of Science and Technology	U	3
Humanistic, scientific, and clinical perspectives on medical issues; literary uses of medical themes; medicine as art and science.			Explores relations among culture, science, and technology in changing global contexts.		
Prereq: English 1110 (110) or equiv. Not open to students with credit for 3645H (305). GE cultures and ideas and diversity global studies course.			Previous completion of 2367.02 or 367.02 recommended.		
3645H Cultures of Medicine	U	3	Prereq: Completion of a Second Writing course and Natural Science sequence, or permission of instructor. Not open to students with credit for 597.01. GE diversity global studies and cross-disciplinary seminar course.		
Humanistic, scientific, and clinical perspectives on medical issues; literary uses of medical themes; medicine as art and science.			4597.02 Global Culture	U	3
Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 3645 (305). GE cultures and ideas and diversity global studies course.			Examines contemporary global cultural flows, the concepts useful in analyzing them, and the questions they raise about power and cultural change.		
3646 Cultures, Natures, Technologies	U	3	Prereq: Completion of Second Writing course. Not open to students with credit for 597.02. GE diversity global studies and cross-disciplinary seminar course.		
Cultural perspectives on issues related to technology, nature, and culture; examines cultural approaches to uses of technology and their relation to natural and human worlds.			4597.03 Global Folklore	U	3
Prereq: English 1110 (110), or equiv. GE cultures and ideas course.			Examines contemporary folklore around the world; introduces students to key concepts in folklore scholarship; focuses on transmission and transformation of cultural knowledge and practice, particularly in situations of conflict or upheaval.		
3657 Contemporary Folklore in the Arab World	U	3	Prereq: Completion of a Second Writing course. Not open to students with credit for 597.02. GE diversity global studies and cross-disciplinary seminar course.		
Study of contemporary folklore of the Arab world, including verbal art, material culture, visual self-presentation, and performance.			4655 Studies in Ethnography	U	3
Prereq: English 1110 (110), or equiv. Not open to students with credit for 377 or Arabic 3301 (377). GE cultures and ideas and diversity global studies course. Cross-listed in Arabic 3301.			Explores the history, theory, and methods of ethnographic study in different contexts (e.g., religious, ethnic, occupational groups).		
3661 The City and Culture	U	3	Prereq: English 1110 (110) or equiv. Repeatable to a maximum of 6 cr hrs.		
Introduction to the comparative and cross-cultural study of cities, urban culture, and urbanism.			4685 Comparative Ethnic and American Studies	U	3
Prereq: One course in CompStd or IntStdS, or permission of instructor. Not open to students with credit for 4661 (531) or IntStdS 4661 (531) or IntStdS 3661. Cross-listed in IntStdS.			Examines relationships between interdisciplinary fields of American Studies and Ethnic Studies.		
3686 Cultural Studies of American Musics	U	3	4803 Studies in Asian American Literature and Culture	U	3
Investigation of the social, political, and cultural contexts of the development of popular musics in the U.S.			Focused study of a topic in Asian American literary and cultural studies.		
Prereq: English 1110 (110) or equiv. Not open to students with credit for 336. GE VPA and diversity soc div in the US course.			Prereq: English 1110 (110) or equiv. Not open to students with 10 qtr cr hrs in 543 or English 587 or with 6 sem cr hrs in English 4587. Repeatable to a maximum of 6 cr hrs. Cross-listed in English 4587.		
3689 Transnationalism and Culture in the Americas	U	3	4804 Studies in Latino Literature and Culture	U	3
Transnationalism as a central feature of cultural and artistic production in the Americas, focusing on the politics of language, race, citizenship, migration, and national belonging.			Focused study of a topic in Latino/a literary and cultural studies.		
Prereq: English 1110 (110) or equiv. Not open to students with credit for 339. GE cultures and ideas and diversity global studies course.			Prereq: English 1110 (110) or equiv. Not open to students with 10 qtr cr hrs in 544 or 588 or 6 sem cr hrs in English 4588. Repeatable to a maximum of 6 cr hrs. Cross-listed in English 4588.		
3692 Comparative Social Movements	U	3	4805 Literature of the Americas	U	3
Comparative and interdisciplinary analysis of social movements and theories about social movement in various global contexts.			Examines U.S. ethnic and Latin American literatures, including intercultural contact, exchange, exploitation, transformation. Explores hemispheric literary traditions. Taught in English; option of reading texts in Spanish.		
GE cultures and ideas and diversity global studies course.			Prereq: English 1110 (110) or equiv.		
3797 Topical Study at Foreign Institution	U	1 - 30	4822 Native American Identity	U	3
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.			Historical and contemporary issues of American Indian identity, primarily in U.S.; focus on American Indian authors, artists, and scholars.		
Prereq: Permission of Department. Repeatable to a maximum of 30 cr hrs.			Prereq: English 1110 (110) or equiv. Not open to students with credit for 542. GE cultures and ideas and diversity soc div in the US course.		
3798 Japanese Popular Culture	U	3	4845 Gender, Sexuality, and Science	U	3
This course takes up Japanese popular culture in order to get at big questions about nationalism and cosmopolitanism, appropriation and authenticity, and being human in a world of commodities. This is an intensive summer course: two weeks in Columbus and two weeks in Japan, where we will be based in Tsukuba and make trips to Tokyo, Kyoto, Osaka, and Uji. Knowledge of Japanese is not required.			Examination of relations between gender and science; topics include gendering of "science" and "nature," biological theories of sexual inequality, feminist critiques of science and technology.		
Prereq: English 1110. GE diversity global studies and education abroad course.			Prereq: One course in CompStd or WGSSt, or Grad standing, or permission of instructor. Not open to students with credit for 535 or WGSSt 4845 (535). Cross-listed with WGSSt.		
3903 World Literature: Theory and Practice	U	3	4921 Intersections: Approaches to Race, Gender, Class, and Sexuality	U	3
Discussion of world literatures in theoretical, historical, and cultural contexts, with particular attention to translation, language, nationalism, globalization, and internationalism.			Examines intersections of race, gender, class, and sexuality in various sites within American culture (e.g., legal system, civil rights discourse, social justice movements).		
Prereq: 2301 (273), 3302 (373), or 3302E (373E). Not open to students with credit for 4903 (573), 4903E (573E), or 3903E.			Prereq: One course in CompStd, WGSSt, or AfAmAst. Not open to students with credit for 545, AfAmAst 4921 (545), or WGSSt 4921 (545). Cross-listed in AfAmAst and WGSSt.		
4990 Senior Seminar in Comparative Studies	U	3	Writing seminar based on students' independent research.		
			Prereq: 3990 (398), and 500 or a 4000-level course in CompStd, and Sr standing; or permission of instructor. Not open to students with credit for 598.		

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4998 Undergraduate Research in Comparative Studies	U	1 - 9	6391 Approaches to Comparative Cultural Studies II	G	3			
Undergraduate research in variable topics; independent study. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.								
4998H Honors Undergraduate Research in Comparative Studies	U	1 - 9	6425 Introduction to Latino Studies	G	4			
Undergraduate research in variable topics; independent study. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.								
4999 Undergraduate Thesis	U	1 - 6	Introduces graduate students to the broad themes, concepts, and questions raised in the interdisciplinary field of Latina/Latino studies.					
Independent study for 4th-year students wishing to complete a senior thesis. Prereq: Sr standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.								
4999H Honors Thesis	U	1 - 6	Prereq: Grad standing, or permission of instructor and approved petition to the Graduate School. Not open to students with credit for 705, ArtsSci 705, or Spanish 6705 (705). Cross-listed in Spanish 6705.					
Senior honors course leading to graduation with distinction and a thesis; independent study for the student with special aptitude. Honors thesis credits must be completed in addition to coursework requirements for all major and minor programs.								
Prereq: Honors standing, and a grade of A in at least half of the CompStd courses taken, and an average of B in the remainder, and Sr standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.								
5189S Comparative Studies Field School	U G	3	6750.01 Introduction to Graduate Study in Folklore I: The Philology of the Vernacular	G	3			
Introduction to ethnographic field methods (participant-observation, writing field notes, photography, interviewing), archiving, and public humanities. An introduction to fieldwork is followed by a field experience (where students will reside together in local housing) followed by accessioning, exhibition planning, and reflection. Maximum credit hours include those for English 5189S.								
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in English.								
5194 Group Studies	U G	1 - 3	Introduction to fieldwork and ethnographic writing in the humanities - interviewing, participant observation, and research ethics. Focus on the ethnography of communication and community representations.					
Special topics. Open to both undergraduates and graduate students. Repeatable to a maximum of 9 cr hrs.								
5668 Studies in Orality and Literacy	U G	3	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 770.02, 770.03, English 6751.02, 6751.22, 770.02, or 770.03. Cross-listed in English 6751.02.					
Examination of major theories of writing and of oral composition and transmission, in juxtaposition to case material deriving from a variety of Middle Eastern cultures.								
Prereq: Not open to students with credit for 648, or NELC 5568 (648). Cross-listed in NELC 5568.								
5691 Topics in Comparative Studies	U G	3	7193 Individual Studies	G	1 - 9			
Critical study of selected themes and topics in a comparative and cross-cultural perspective; emphasis on issues of method, critical theory, representation, power, knowledge, and authority.								
Prereq: Not open to students with maximum qtr cr hrs for 651. Repeatable to a maximum of 12 cr hrs.								
5797 Study at a Foreign Institution	U G	1 - 30	7256 Complex Ethnography	G	3			
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.								
Prereq: Permission of department. Repeatable to a maximum of 30 cr hrs.								
5864 Modernity and Postmodernity: Concepts and Theories	U G	3	7301 Theorizing Literature	G	3			
Introduces key issues and concepts defining modernity; focuses on how modernity has shaped recent and contemporary politics and culture; discussions of globalization.								
Prereq: Not open to students with credit for 660.								
5957.01 Comparative Folklore	U G	3	7320 Theorizing Race and Ethnicity	G	3			
Comparative study of folklore. Topics vary, e.g., folklore and gender politics; theories of myth; folklore, memory, and history.								
Prereq: 2350, 2350H, English 2270, or 2270H (270). Not open to students with maximum qtr cr hrs for 677.01 and 677.02. Repeatable to a maximum of 6 cr hrs.								
5957.02 Folklore in Circulation	U G	3	7340 Theorizing Science and Technology	G	3			
Study of transmission of culture. Topics vary, e.g., tourists, travelers, tricksters; cultures of waste and recycling; orality and literacy.								
Prereq: 2350, 2350H, English 2270 (270), or 2270H. Not open to students with maximum qtr cr hrs for 677.03 and 677.04. Repeatable to a maximum of 6 cr hrs.								
5980 Ancient and Modern Narrative: Cognition, Affect, Ethics, Belief	U G	3	7350.01 Theorizing Folklore I: Tradition and Transmission	G	3			
This course will juxtapose narratives from an ancient culture with narratives from a modern culture to explore the hypothesis that the power of narrative arises from its capacity to affect the lives of audiences by engaging their cognition, affect, ethics, and beliefs. Team-taught w/ faculty in English.								
Prereq: Not open to students with credit for English 5980. Cross-listed in English.								
6390 Approaches to Comparative Cultural Studies I	G	3	7350.02 Theorizing Folklore II: Ethnography of Performance	G	3			
Introduces students to theoretical tools, methods of investigation, and key concepts integral to research in comparative studies.								
Prereq: Grad standing or permission of instructor. Not open to students with credit for 710.								
Performance as a heightened mode of communication characteristic of vernacular cultural process, studied in the context of ongoing social interaction.								
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 792 or English 870. Cross-listed in English.								
7350.03 Theorizing Folklore III: Differentiation, Identification, and The Folk	G	3	7350.03 Theorizing Folklore III: Differentiation, Identification, and The Folk	G	3			
Cultural form as social marker. "Folklore" and other metacultural concepts in the history of modernity.								
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 792 or English 870. Cross-listed in English.								
7360 Theorizing Culture	G	3	7360 Theorizing Culture	G	3			
The concept of culture as it has developed over time; emphasis on tension between descriptive and normative approaches.								
Prereq: Grad standing or permission of instructor. Not open to students with credit for 716.								
7370 Theorizing Religion	G	3	7370 Theorizing Religion	G	3			
Relationships between religion and other domains in a cross-cultural, comparative framework with attention to theoretical models and particular texts and traditions.								
Prereq: Grad standing or permission of instructor. Not open to students with credit for 725.								
7380 Theorizing America	G	3	7380 Theorizing America	G	3			
Interdisciplinary study of culture, identity, and representation in the U.S.								
Prereq: Grad standing or permission of instructor. Not open to students with credit for 715.								

7888	Interdepartmental Studies in the Humanities	G	1 - 3
Two or more departments present colloquia on subjects of mutual interest; topics to be announced.			
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 10 completions. Cross-listed in German 7888, English 7888.01, and 7888.02.			
7999	Research in Comparative Studies: Thesis	G	1 - 12
Research for Master's thesis.			
Repeatable to a maximum of 24 cr hrs. This course is graded S/U.			
8193	Individual Studies	G	1 - 9
Designed to give able students an opportunity to pursue special studies not otherwise offered.			
Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
8791	Seminar in Interdisciplinary Theory	G	3
Discussion of interdisciplinary cultural theory.			
Repeatable to a maximum of 9 cr hrs.			
8802	Seminar in Life Narrative	G	3
Investigates modes of autobiographical and biographical writing, performance, representation in media. Focuses on particular theories and texts, varying with course topic.			
Repeatable to a maximum of 9 cr hrs.			
8805	Seminar in Literature in Global Context	G	3
Discussion of literary texts, cultural-political documents, and theoretical discourses in global contexts.			
Repeatable to a maximum of 15 cr hrs.			
8842	Seminar in Science and Medicine	G	3
Explores relationships between science, technology and the health sciences and medical practices; topic varies.			
Repeatable to a maximum of 15 cr hrs.			
8843	Seminar in Technology and Culture	G	3
Explores relationships between science and technology and other areas, including politics, gender and sexuality, popular culture; topic varies.			
Repeatable to a maximum of 15 cr hrs.			
8858	Seminar in Folklore	G	3
Advanced seminar on current or specialized topics in folklore studies. Folklore GIS course.			
Prereq: Grad standing, or permission of instructor. Not open to students with 9 sem cr hrs of English 8858.01 (can include equiv qtr or hrs for 870), English 8858.02, or CompStd 8858.			
Repeatable to a maximum of 9 cr hrs. Cross-listed in English 8858.01.			
8865	Seminar in Critical Trauma Theory	G	3
Examines various topics in the growing field of critical trauma theory.			
Repeatable to a maximum of 9 cr hrs.			
8866	Seminar in Culture and Capital	G	3
Exploration of theoretical approaches to relations between cultural and economic production; examines major materialist theories, materialist feminism, and other forms of materialist critique.			
Repeatable to a maximum of 9 cr hrs.			
8872	Seminar in Religious Studies	G	3
Explores relationships between religious institutions and practices and other areas, including politics, gender and sexuality, technology, popular culture; topics vary.			
Repeatable to a maximum of 15 cr hrs.			
8888	Interdepartmental Seminar in Critical Theory	G	3
Interdisciplinary study of a movement or problem in critical theory.			
Repeatable to a maximum of 15 cr hrs. Cross-listed in English, French, German, Spanish, and WGSSt.			
8890	Colloquia, Workshops, and Departmental Seminars	G	1 - 3
Departmental workshop, colloquium, or seminar. Topics vary.			
Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			
8896	Seminar in East Asian Philosophy	G	3
Seminar focusing on a particular thinker, school of philosophy, or set of texts from the East Asian philosophical tradition. Topics vary.			
Repeatable to a maximum of 9 cr hrs. Cross-listed in EALL 8896 and Philos 8102.			
8998	Research in Comparative Studies: Candidacy Examination	G	1 - 12
Research in preparation for Ph.D. exams.			
Repeatable to a maximum of 27 cr hrs or 12 completions. This course is graded S/U.			
8999	Research in Comparative Studies: Dissertation	G	1 - 12
Research for dissertation.			
Repeatable. This course is graded S/U.			

1110	Introduction to Computing Technology	U	2
A course of general interest giving experience with personal computer software, e.g., word processors and spreadsheets; provides fundamental computer literacy; neither teaches nor requires programming.			
Prereq: Not open to students with credit for 1111 (101), 1113, or 100.			
1111	Introduction to Computer-Assisted Problem Solving	U	3
Problem solving techniques using productivity software; spreadsheets, formulas, conditional logic; relational databases, relational algebra; word processing; data presentation; graphics.			
Prereq: Not open to students with credit for 1112 (105), 1113 (101), or 200. GE quant reason math and logical anly course.			
1112	Introduction to Computer-Assisted Problem Solving for Construction Systems Management	U	3
Using productivity software, especially spreadsheets and databases, to solve problems for construction management; relative/absolute cell referencing, logic, functions; relational databases, querying, project integration.			
Prereq: Not open to students with credit for 1111 (101), 1113, 105, or 200.			
1113	Spreadsheet Programming for Business	U	1
Spreadsheet modeling/programming concepts and techniques to solve business related problems; efficient/effective data handling, computational analysis and decision support.			
Prereq: Math 1130 (130) or above. Not open to students with credit for 1111 (101), 1112 (105), 2111, or 200. This course is available for EM credit.			
1114	Introduction to Databases Using MS Access	U	1½
Database concepts and techniques for efficient/effective data handling, computational analysis and decision support.			
Prereq: Not open to students with credit for 1111, 1112, or 2111.			
1211	Computational Thinking in Context: Images, Animation, and Games	U	3
Introduction to computational thinking, focusing on problem solving and programming concepts and skills needed to manipulate digital images and to create interactive graphics, animations, and games; creativity and imagination encouraged.			
Prereq: Not open to students with credit for 203 or 204.			
1221	Introduction to Computer Programming in MATLAB for Engineers and Scientists	U	2
Introduction to computer programming and problem solving techniques with applications in engineering and the physical sciences; algorithm development; programming lab experience.			
Prereq: Engr 1181, 1281, Math 151, or Physics 131. Not open to students with credit for 205. This course is available for EM credit. Cross-listed in Engr.			
1222	Introduction to Computer Programming in C++ for Engineers and Scientists	U	3
Introduction to computer programming and to problem solving techniques using computer programs with applications in engineering and the physical sciences; algorithm development; programming lab experience.			
Concur: Math 1151 or 1161. Not open to students with credit for 202, Engr 1281.01, or 1281.02. This course is available for EM credit. Cross-listed in Engr.			
1223	Introduction to Computer Programming in Java	U	3
Introduction to computer programming and to problem solving techniques using computer programs; programming lab experience.			
Prereq: Not open to students with credit for 201. This course is available for EM credit.			
2021	Introduction to Modeling and Simulation	U	3
Concepts of modeling and simulation; develop MATLAB skills to explore modeling concepts; project: design, implementation, verification/validation of model; oral and written project report.			
Prereq: Math 1151 (152) or equivalent, and Physics 1250 (131). Not open to students with credit for 1221 or Engr 1221.			
2111	Modeling and Problem Solving with Spreadsheets and Databases	U	3
Spreadsheet and database modeling/programming concepts and techniques to solve business related problems; efficient/effective data handling, computational analysis and decision support. Additional topics: computer concepts, networking, project integration.			
Prereq: Math 1130 (130) or above. Not open to students with credit for 1111 (101), 1112 (105), or 200. This course is available for EM credit. GE quant reason math and logical anly course.			
2112	Modeling and Problem Solving with Spreadsheets and Databases for Engineers	U	3
Spreadsheet and database modeling/programming concepts and techniques to solve business and engineering related problems; efficient/effective data handling, computational analysis and decision support.			
Prereq: 1222 (202), 1223 (201), Engr 1281.01H, or 1281.02H. Prereq or concur: Math 1151, 1161.01, or 1161.02. Not open to students with credit for 2111 (200), 1111 (101), 1112 (105), or 1113.			
2122	Data Structures Using C++	U	3
Introduction to programming in C++ and object-oriented programming; encapsulation using classes, inheritance, etc.			
Prereq: 1222 (202). Not open to students with credit for 230.			
2123	Data Structures Using Java	U	3
Subroutines and modular programming; searching; basic data structures; recursion; introduction to sequential files.			
Prereq: 1223 (201). Not open to students with credit for 214.			

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2133 Business Programming with File Processing U 3

Business data processing principles and programming: sequential file processing algorithms, sorting, data validation; COBOL is taught.
Prereq: 2123 (214). Not open to students with credit for 314.

2193 Individual Studies in Computer Science and Engineering U 1 - 10

Planning, conducting, and reporting a special study appropriate to the needs of the students.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.
This course is graded S/U.

2194 Group Studies in Computer Science and Engineering U 1 - 10

Designed to give the student an opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

2194H Group Studies in Computer Science and Engineering U 1 - 10

Designed to give the student an opportunity to pursue special studies not otherwise offered.
Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

2221 Software I: Software Components U 4

Intellectual foundations of software engineering; design-by-contract principles; mathematical modeling of software functionality; component-based software from client perspective; layered data representation.
Prereq: 1211 (203) or 1212 or 1221 (205) or 1222 (202) or 1223 (201) or 204 or EnGraph 167 or Engr 1221, or 1281.01H, or 1281.02H, or CSE Placement Level A. Concur: Math 1151 or 1161.01 or 1161.02. Not open to students with credit for 4221, 321, 502, or 5022. This course is available for EM credit.

2231 Software II: Software Development and Design U 4

Data representation using hashing, search trees, and linked data structures; algorithms for sorting; using trees for language processing; component interface design; best practices in Java.
Prereq: 2221. Concur: 2321. Not open to students with credit for 2231.01, 321, or 421.

2321 Foundations I: Discrete Structures U 3

Propositional and first-order logic; basic proof techniques; graphs, trees; analysis of algorithms; asymptotic analysis; recurrence relations.
Prereq: 2122 (230), 2123 (214), or 2221 (222); and Math 1151 (152), or 1161. Concur (for students with credit for 2221): 2321. Not open to students with credit for 625 or 680.

2331 Foundations II: Data Structures and Algorithms U 3

Design/analysis of algorithms and data structures; divide-and-conquer; sorting and selection, search trees, hashing, graph algorithms, string matching; probabilistic analysis; randomized algorithms; NP-completeness.
Prereq: 2231 or 321, and 2321 or Math 566, and Stat 3460, 3470, or 427. Concur: Math 3345. Not open to students with credit for 5331 (680).

2421 Systems I: Introduction to Low-Level Programming and Computer Organization U 4

Introduction to computer architecture at machine and assembly language level; pointers and addressing; C programming at machine level; computer organization.
Prereq: 2122, 2123, 2231 or 321; and 2321, Math 2566, or 366. Not open to students with credit for 360.

2431 Systems II: Introduction to Operating Systems U 3

Introduction to operating system concepts: process, CPU scheduling, memory management, file system and storage, and multi-threaded programming.
Prereq: 2421 (360); or 2451 (459.21), and ECE 2560 (265). Not open to students with credit for 5431 (660).

2451 Advanced C Programming U 2

Advanced C features for students with significant programming experience in another language.
Prereq: 2221 or 222. Concur: 2231 or 321. Not open to students with credit for 2421.

2501 Social, Ethical, and Professional Issues in Computing U 1

Social, ethical, and professional issues facing computing professionals; ethical principles; discussion of case studies.
Prereq: 2122, 2123, or 2231; and Gen Ed Writing: Level 2. Not open to students with credit for 5501.

3231 Software Engineering Techniques U 3

Software engineering issues, techniques, methodologies and technologies; software lifecycle activities: requirements analysis, architecture, design, testing, deployment, maintenance; project management; enterprise software systems; frameworks.
Prereq: 3901 or 3902 or 3903. Not open to students with credit for 5231 (757).

3232 Software Requirements Analysis U 3

Information systems analysis; object-oriented analysis models and tools; use cases, system modeling using UML; requirements specification development; term project.
Prereq: 3241 or 3901 or 3902 or 3903 (560) or 5241 (670). Not open to students with credit for 5232 (616).

3241 Introduction to Database Systems U 3

Database systems use, logical design, entity-relationship model, normalization, query languages and SQL, relational algebra and calculus, object relational databases, XML, active databases; database design project.
Prereq: 2133 or 2231, and 2321. Not open to students with credit for 5241.

3244 Data Management in the Cloud U 3

Systematic organization of data on cloud computing architectures; basic indexing techniques, including B-tree and hash-based indexing; fundamentals of query optimization, including access path selection and cardinality estimation; full and partial replication; data partitioning and distributed task scheduling.
Prereq: 3241 or 5241; and 2421 or 3430.

3321 Automata and Formal Languages U 3

Machine-based and grammatical models of computation; finite automata and regular languages, pushdown automata and context-free languages, Turing machines; non-determinism; Church's Thesis.
Prereq: 2231 (321), and 2421 (360), and 2331 (Math 566), and Math 3345. Not open to students with credit for 5321 (625).

3341 Principles of Programming Languages U 3

Formal languages and grammars; recursive descent parsing; data types, expressions, control structures, parameter passing; compilers and interpreters; memory management; functional programming principles.
Prereq: 2231, 2331 (680), and 2421, and 3901 (560), 3902, or 3903. Not open to students with credit for 5341 (655).

3421 Introduction to Computer Architecture U 3

Organization of hardware and software in modern computer systems, including instruction set design, processor control, ALU design, pipelining, multicores and accelerators, and memory subsystem design.
Prereq: 2231 or 321, and 2421, 2560, 265, or 360, and 2000 or 261. Not open to students with credit for 5421 (675.01) or 675.02.

3430 Overview of Computer Systems For Non-Majors U 4

Introduction to computer architecture and organization at machine and assembly level; pointers and addressing using C programming; introduction to operating system concepts: process, memory management, file system and storage, and multi-threaded programming.
Prereq: 2122 or 2123, and 2321. Not open to students with credit for 2421, 2431, 360, or 660. Not open to CSE/CIS majors.

3461 Computer Networking and Internet Technologies U 3

Computer networks, communication protocols, Internet TCP/IP and applications, wireless communications and network security.
Prereq: 2421; or 3430; or 2451 and ECE 2560. Concur: 2431 or 3430. Not open to students with credit for 5461.

3521 Survey of Artificial Intelligence I: Basic Techniques U 3

Survey of basic concepts and techniques in artificial intelligence, including problem solving, knowledge representation, and machine learning.
Prereq: 2331, or 222 and Math 366, or Sr standing. Not open to students with credit for 5521 (630).

3541 Computer Game and Animation Techniques U 3

Fundamental algorithms and mathematics in production of computer animation and video games, emphasizing control and rendering of animated characters.
Prereq: 3901 or 3902 or 3903 (560). Not open to students with credit for 5541 (683).

3901 Project: Design, Development, and Documentation of Web Applications U 4

Intensive group project involving design, development, and documentation of a web application; client-side and server-side scripting; communication skills emphasized; builds programming maturity.
Prereq: 2231; and 2321; and 2421 or 3430, or 2451 and ECE 2560.

3902 Project: Design, Development, and Documentation of Interactive Systems U 4

Intensive group project involving design, development, and documentation of an interactive software system, a 2D interactive game; communication skills emphasized; builds programming maturity.
Prereq: 2231; and 2321; and 2421 or 3430, or 2451 and ECE 2560.

3903 Project: Design, Development, and Documentation of System Software U 4

Intensive group project involving design, development, and documentation of system software including an assembler and a linking loader; communication skills emphasized; builds programming maturity.

Prereq: 2231; and 2321; and 2421 or 3430, or 2451 and ECE 2560.

4191 Professional Practice in Industry U 0

Preparation and submission of a comprehensive report based on actual employment experience in a co-op job in industry.

Prereq: Permission of the CSE Advising Office. Repeatable to a maximum of 8 completions.
This course is progress graded (S/U).

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4193	Individual Studies in Computer Science and Engineering	U	1 - 10		5042	Systems I: Introduction to Low-Level Programming and Computer Organization	U G	3	
	Designed to give the student an opportunity to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.				Introduction to computer architecture at machine and assembly language level; pointers and addressing; C programming at machine level; computer organization.				
4194	Group Studies in Computer Science and Engineering	U	1 - 10		Prereq: 2122, 2123, 2231 or 321; and 2321, Math 2566, or 366. Not open to students with credit for 2421 or 360.				
4194H	Group Studies in Computer Science and Engineering	U	1 - 10			5043	Overview of Computer Systems For Non-Majors	U G	3
	Designed to give the student an opportunity to pursue special studies not otherwise offered. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.				Introduction to computer architecture and organization at machine and assembly level; pointers, memory management, file system and storage, and multi-threaded programming.				
4251	The UNIX Programming Environment	U	1		Prereq: 5022 or equiv, and 5032 or equiv. Not open to students with credit for 2421, 5042, 2431, 3430, 360, or 660. Not open to CSE/CIS majors.				
	Introduction to the UNIX programming environment including: shell programming (csh); regular expressions; makefiles; grep, sed, and awk programming languages.					5052	Survey of Artificial Intelligence for Non-Majors	U G	3
	Prereq: 2231 or 321. Not open to students with credit for 459.11. This course is graded S/U.				Survey of the basic concepts and techniques in artificial intelligence, including problem solving, knowledge representation, and machine learning.				
4252	Programming in C++	U	1		Prereq: 1211, 1221, 1222, 1223, or 2221, or Grad standing. Not open to students with credit for 3521 (630), 4521, or 5521, or students enrolled in a CSE or CIS major.				
	Syntax and pragmatics of C++ programming; C++ types, arrays, classes, pointers; objects and classes; compile-time vs. run-time picture; inheritance; template classes.					5231	Software Engineering Techniques	U G	2
	Prereq: 2231. Not open to students with credit for 459.22. This course is graded S/U.				Software engineering issues, techniques, methodologies and technologies; software lifecycle activities: requirements analysis, architecture, design, testing, deployment, maintenance; project management; enterprise software systems; frameworks.				
4253	Programming in C#	U	1		Prereq: 3901 or 3902 or 3903 (560). Not open to students with credit for 3231 (757).				
	C# programming for students well-versed in programming with another object-oriented language.					5232	Software Requirements Analysis	U G	2
	Prereq: 2231. Not open to students with credit for 459.24. This course is graded S/U.				Information systems analysis; object-oriented analysis models and tools; use cases, system modeling using UML; requirements specification development; term project.				
4254	Programming in Lisp	U	1		Prereq: 3241 or 3901 or 3902 or 3903 (560) or 5241 (670). Not open to students with credit for 3232 (616).				
	Lisp programming for students well-versed in programming with another language.					5234	Distributed Enterprise Computing	U G	3
	Prereq: 2231. Not open to students with credit for 459.31. This course is graded S/U.				Current application and middleware frameworks for distributed enterprise computing; XML; Enterprise Java; SOAP and REST web services; AJAX and JSON; enterprise service bus; Hadoop; mobile computing.				
4255	Programming in Perl	U	1		Prereq: 2431 or 5431 (660). Not open to students with credit for 769.				
	Syntax and pragmatics of Perl programming; Perl mechanisms for text and file processing, scripting, client-server programming, etc.; powerful ways to combine these mechanisms.					5235	Applied Enterprise Architectures and Services	U G	3
	Prereq: 2231, 2331, and 2421. Not open to students with credit for 459.51. This course is graded S/U. Cross-listed in ISE 5811.				Modeling/analysis of complex enterprise architectures; enterprise patterns (workflow, broker, warehousing); methods for service performance (lean, ontologies, data mining, etc.); emerging topics in semantic cyber-infrastructures, social computation.				
4471	Information Security	U	3		Prereq: 5911 (758 and 762), 5912 (786), 5913 (682), 5914 (731), 5915 (772), or 778.				
	Introduction to security of digital information; threats and attacks; regulations; risk management; attack detection and response; cryptography; forensics; technical training and certifications.					5236	Mobile Application Development	U G	3
	Prereq: 2231 and 2321, or 321. Not open to students with credit for 551.				Mobile application development frameworks; Architecture, design and engineering issues, techniques, methodologies for mobile application development.				
4998	Undergraduate Research in Computer Science and Engineering	U	1 - 10		Prereq: 3901 or 3902 or 3903 (560).				
	Opportunity for undergraduate student to conduct research in Computer Science and Engineering.					5239	Intermediate Studies in Software Engineering	U G	2
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.				Intermediate-level topics in software engineering.				
4998H	Undergraduate Research in Computer Science and Engineering	U	1 - 10		Repeatable to a maximum of 12 cr hrs.				
	Opportunity for undergraduate student to conduct research in Computer Science and Engineering.					5241	Introduction to Database Systems	U G	2
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.				Database systems use; logical design; entity-relationship model; normalization; query languages and SQL; relational algebra and calculus; object relational databases; XML; active databases; database design project.				
4999	Computer Science and Engineering Research for Thesis	U	1 - 10		Prereq: 2133 or 2231 or 2233 (314) or 321, and 2321 or Math 2366 (366). Not open to students with credit for 3241 (670).				
	Supervised research and project work arranged individually.					5242	Advanced Database Management Systems	U G	3
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.				Transaction management; query processing and optimization; organization of database systems, advanced indexing, multi-dimensional data, similarity-based analysis, performance evaluation, new database applications.				
4999H	Computer Science and Engineering Research for Thesis	U	1 - 10		Prereq: 3241 or 5241, and 2421 or 5042. Not open to students with credit for 770.				
	Supervised research and project work arranged individually for honors students.					5243	Introduction to Data Mining	U G	3
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.				Knowledge discovery, data mining, data preprocessing, data transformations; clustering, classification, frequent pattern mining, anomaly detection, graph and network analysis; applications.				
5022	Software I: Software Components	U G	3		Prereq: 3241 or 5241, and 2331, 5331, Stat 3301, or ISE 3200. Not open to students with credit for 674.				
	Intellectual foundations of software engineering; design-by-contract principles; mathematical modeling of software functionality; component-based software from client perspective; layered data representation. Previous programming experience in any language required.					5245	Introduction to Network Science	U G	3
	Prereq: At least one term of Calculus. Not open to students with credit for 2221, 2231, 4221, 321, or 502. Not open to students enrolled in a CSE or CIS major.				Introduction to Network Science; Global and Local Network Measures; PageRank; Community Discovery Algorithms; Network Models; Understanding the role of network analysis in Web and Social network applications.				
5023	Software II: Software Development and Design	U G	3		Prereq: 2331.				
	Data representation using hashing, search trees, and linked data structures; algorithms for sorting; using trees for language processing; component interface design; best practices in Java.					5249	Intermediate Studies in Databases	U G	2
	Prereq: 2221 or 5022. Not open to students with credit for 2231, 2231.01, 321, or 421.				Intermediate-level topics in databases.				
5032	Foundations I: Discrete Structures	U G	2		Repeatable to a maximum of 12 cr hrs.				
	Propositional and first-order logic; basic proof techniques; graphs, trees; analysis of algorithms; asymptotic analysis; recurrence relations.								
	Prereq: 5022 or equiv. Not open to students with credit for 2321, 625, or 680.								

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5321	Automata and Formal Languages	U G	2	5441	Introduction to Parallel Computing	U G	3
	Machine-based and grammatical models of computation; finite automata and regular languages; pushdown automata and context-free languages; Turing machines; non-determinism; Church's Thesis; halting problem.				Parallel programming models; sequential and parallel performance issues; high-performance computer architecture; design, analysis, implementation and performance evaluation of parallel algorithms.		
	Prereq: 2231 or 321, and 2421 or 360, and 2331 or Math 566. Not open to students with credit for 3321 (625).				Prereq: 2231, 2321, and 2421; or 2231, 2321, and 3430; or 2231, 2321, 2451, and ECE 2560; or Grad standing.		
5331	Foundations II: Data Structures and Algorithms	U G	2	5449	Intermediate Studies in Parallel Computing	U G	2
	Design/analysis of algorithms and data structures; divide-and-conquer; sorting and selection, search trees, hashing, graph algorithms, string matching; probabilistic analysis; randomized algorithms; NP-completeness.				Intermediate-level topics in parallel computing.		
	Prereq: 2231 or 321, and 2321 or Math 366, and 2566 (566), and Stat 3470 (427). Not open to students with credit for 2331 (680).				Repeatable to a maximum of 12 cr hrs.		
5339	Intermediate Studies in Algorithms	U G	2	5461	Computer Networking and Internet Technologies	U G	2
	Intermediate-level topics in algorithms.				Computer networks, communication protocols, Internet TCP/IP and applications, wireless communications and network security.		
	Repeatable to a maximum of 12 cr hrs.				Prereq: 2451, and 2421 or ECE 2560 (265). Concur: 2431. Not open to students with credit for 3461 (677).		
5341	Principles of Programming Languages	U G	2	5462	Network Programming	U G	3
	Formal languages and grammars; recursive descent parsing; data types, expressions, control structures, parameter passing; compilers and interpreters; memory management; functional programming principles.				IP-based socket programming in C/C++, TinyOS programming in NesC.		
	Prereq: 2231, 2331 (680) and 2421, and 3901 (560), 3902, or 3903. Not open to students with credit for 3341 (655).				Prereq: 3461, 5461, or ECE 3561.		
5343	Compiler Design and Implementation	U G	3	5463	Introduction to Wireless Networking	U G	3
	Lexical and syntax analysis using compiler generation tools; type checking; intermediate code; control-flow analysis; dataflow analysis; code optimizations; code generation; compiler project.				Fundamental concepts in cellular design, Wireless-LANs, MANETs, and sensor networks will be explored. Specific topics will include propagation, fading, cellular-design, power-management, routing, scheduling, and control.		
	Prereq: 3901 (560), 3902, or 3903, and 3341 (655). Not open to students with credit for 756.				Prereq: 3461, 5461, or ECE 3561; or Grad standing in Engineering or Math and Physical Sciences. Cross-listed in ECE 5101.		
5349	Intermediate Studies in Programming Languages	U G	2	5469	Intermediate Studies in Computer Networking	U G	2
	Intermediate-level topics in programming languages.				Intermediate-level topics in computer networking.		
	Repeatable to a maximum of 12 cr hrs.				Repeatable to a maximum of 12 cr hrs.		
5351	Introduction to Cryptography	U G	3	5472	Information Security Projects	U G	3
	Foundations of cryptography; mathematical formulations/proofs of security goals; theory and practical constructions of encryption schemes, MACs, digital signatures; zero-knowledge proof systems; cryptographic protocols.				Team-based projects: solve information security problems (mobile/static host/network hardening, intrusion detection and vulnerability scanning, forensics); results communicated through report writing and presentation.		
	Prereq: 2331 (680), 5331, Math 4573 (573), or 4580 (580), and Stat 3460 (427) or 3470. Not open to students with credit for 723 or 794Q.				Prereq: 3901, 3902, or 3903, and 3461, 5461, or 4471. Not open to students with credit for 652.		
5359	Intermediate Studies in Cryptography	U G	2	5473	Network Security	U G	3
	Intermediate-level topics in cryptography.				Security threats and services, elements of cryptography, protocols for security services, network and internet security, advanced security issues and technologies.		
	Repeatable to a maximum of 12 cr hrs.				Prereq: 3461 (677) or 5461. Not open to students with credit for 651.		
5361	Numerical Methods	U G	3	5479	Intermediate Studies in Computer Security	U G	2
	Numerical methods for scientific computation: computer arithmetic, rounding errors, machine precision, machine representation, root-finding, interpolation, integration, linear systems, splines, smoothing, curve-fitting, linear programming.				Intermediate-level topics in computer security.		
	Prereq: 2231, and Math 2568 (268) or 571, and 1151 (151). Not open to students with credit for 541.				Repeatable to a maximum of 12 cr hrs.		
5421	Introduction to Computer Architecture	U G	2	5501	Social, Ethical, and Professional Issues in Computing	U G	1
	Organization of hardware and software in modern computer systems, including instruction set design, processor control, ALU design, pipelining, multicores and accelerators, and memory subsystem design.				Social, ethical, and professional issues facing computing professionals; ethical principles; discussion of case studies.		
	Prereq: 2231 or 321, and 2421 (360) or ECE 2560 (265), and 2000 or 261. Not open to students with credit for 3421 (675.01 or 675.02).				Prereq: 1222 or 1223 or 2231 or 214 or 222 or 230, and 2321 or Math 366, and Gen Ed Writing Level 2. Not open to students with credit for 2501 (601).		
5429	Intermediate Studies in Computer Architecture	U G	2	5521	Survey of Artificial Intelligence I: Basic Techniques	U G	2
	Intermediate-level topics in computer architecture.				Survey of the basic concepts and techniques in artificial intelligence, including problem solving, knowledge representation, and machine learning.		
	Repeatable to a maximum of 12 cr hrs.				Prereq: 2331, or 222 and Math 366. Not open to students with credit for 3521 (630).		
5431	Systems II: Introduction to Operating Systems	U G	2	5522	Survey of Artificial Intelligence II: Advanced Techniques	U G	3
	Introduction to operating system concepts: process, CPU scheduling, memory management, file system and storage, and multi-threaded programming.				Survey of advanced concepts, techniques, and applications of artificial intelligence, including knowledge representation, learning, natural language understanding, and vision.		
	Prereq: 5042 or equiv. Not open to students with credit for 2431 or 660.				Prereq: 3521 (630) or 5521, or Grad standing. Not open to students with credit for 730.		
5432	Mobile Handset Systems and Networking	U G	3	5523	Machine Learning and Statistical Pattern Recognition	U G	3
	Mobile handset architecture: processors, memory, I/O devices, sensors, virtual machine and power management; different ranges of wireless communication technologies; TCP/IP over wireless; mobile social networking.				Introduction to basic concepts of machine learning and statistical pattern recognition; techniques for classification, clustering and data representation and their theoretical analysis.		
	Prereq: 2421, 3430, or 2451 and ECE 2560; or Grad standing.				Prereq: 3521, 5521, or 5243, and 5522, Stat 3460, or 3470. Not open to students with credit for 735.		
5433	Operating Systems Laboratory	U G	3	5524	Computer Vision for Human-Computer Interaction	U G	3
	Introduction to the internals of operating systems; designing and implementing components within commercial operating systems: system calls, CPU scheduling, context switching, process management, memory management, file systems.				Computer vision algorithms for use in human-computer interactive systems; image formation, image features, segmentation, shape analysis, object tracking, motion calculation, and applications.		
	Prereq: 2431 or 5431. Not open to students with credit for 662.				Prereq: 2331, or Sr or Grad standing. Not open to students with credit for 634.		
5434	Comparative Operating Systems	U G	3	5525	Foundations of Speech and Language Processing	U G	3
	A careful examination of a number of representative computer operating systems.				Fundamentals of natural language processing, automatic speech recognition and speech synthesis; lab projects concentrating on building systems to process written and/or spoken language.		
	Prereq: 2431 (660) or 5431. Not open to students with credit for 741.				Prereq: 3521 or 5521, and 5522, Stat 3460, or 3470. Not open to students with credit for 733.		
5439	Intermediate Studies in Operating Systems	U G	2	5526	Introduction to Neural Networks	U G	3
	Intermediate-level topics in operating systems.				Survey of fundamental methods and techniques of neural networks; single- and multi-layer perceptrons; radial-basis function networks; support vector machines; recurrent networks; supervised and unsupervised learning.		
	Repeatable to a maximum of 12 cr hrs.				Prereq: 3521 or 5521. Not open to students with credit for 779.		

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5539	Intermediate Studies in Artificial Intelligence	U G	2		6249	Advanced Studies in Databases	G	1 - 3
	Intermediate-level topics in artificial intelligence.					Advanced-level topics in databases.		
	Repeatable to a maximum of 12 cr hrs.					Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.		
5541	Computer Game and Animation Techniques	U G	2		6321	Computability and Complexity	G	3
	Fundamental algorithms and mathematics in the production of computer animation and video games, emphasizing the control and rendering of animated characters.					Turing machines, decidability, recursive enumerability; many-to-one and polynomial-time reductions; NP-completeness, Cook-Levin Theorem; Recursion Theorem.		
	Prereq: 3901 or 3902 or 3903 (560). Not open to students with credit for 3541 (683).					Prereq: 3321 (625) or 5321. Not open to students with credit for 725.		
5542	Real-Time Rendering	U G	3		6331	Algorithms	G	3
	Comprehensive list of topics in real-time rendering using OpenGL and GLSL, including coordinate systems, transformations, viewing, illumination, texture mapping, and shader-based algorithms.					Algorithm design paradigms; mathematical analysis of algorithms.		
	Prereq: 3901 (560) or 3902 or 3903, and Math 2568 (568) or 571. Not open to students with credit for 781.					Prereq: 2331 (680) or 5331. Not open to students with credit for 780.		
5543	Geometric Modeling	U G	3		6332	Advanced Algorithms	G	3
	Common algorithmic and mathematical techniques for modeling geometric objects in computer graphics and CAD applications; sample based modeling, mesh generation, and hierarchical representations.					Advanced graph algorithms, string algorithms, linear programming, matrix operations, Fourier transforms, randomized algorithms, approximation algorithms, geometric algorithms.		
	Prereq: Math 2568 (568) or 571. Not open to students with credit for 784.					Prereq: 6331 (780). Not open to students with credit for 790 or 794A.		
5544	Introduction to Data Visualization	U G	3		6333	Distributed Algorithms	G	3
	Principles and methods for visualizing data from measurements and calculations in physical and life sciences, and transactional and social disciplines; information visualization; scientific visualization.					Fundamental concepts in distributed computing; algorithms for distributed control and data; impossibility and limits; algorithms for fault-tolerance; specification, design and verification of distributed programs.		
	Prereq: 5361, Stat 3301, 3541, or 5541. Not open to students with credit for 694L.					Prereq: 6431 (760). Not open to students with credit for 763.		
5545	Advanced Computer Graphics	U G	3		6341	Foundations of Programming Languages	G	3
	Advanced topics in computer graphics; image synthesis, lighting and rendering, sampling and material properties, volume rendering.					Conceptual foundations of programming languages: attribute grammars; types; functional languages; language semantics; abstract interpretation.		
	Prereq: 3541 or 5541 or 581. Not open to students with credit for 782.					Prereq: 3341 (655) or 5341. Not open to students with credit for 755.		
5559	Intermediate Studies in Computer Graphics	U G	2		6349	Advanced Studies in Programming Languages	G	1 - 3
	Intermediate-level topics in computer graphics.					Advanced-level topics in programming languages.		
	Repeatable to a maximum of 12 cr hrs.					Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.		
5891	Proseminar in Cognitive Science	U G	3		6421	Computer Architecture	G	3
	Provides an in-depth examination of cognitive science from an interdisciplinary perspective.					Principles and tradeoffs behind the design of modern computer architectures, including instruction-level parallelism, memory system design, advanced cache architectures, cache coherence, multiprocessors, energy-efficient and embedded architectures.		
	Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in Ling, Philos, Psych, and SphHrng.					Prereq: 3431 (660) or 5431, and 3421 (675), 5421, or ECE 5362 (662). Not open to students with credit for 775.		
5911	Capstone Design: Software Applications	U G	4		6422	Advanced Computer Architecture	G	3
	Capstone design project: application of software engineering techniques, methodologies and technologies in software lifecycle activities using enterprise software frameworks; teamwork, written and oral communication.					Fundamental design issues in parallel architectures, design of scalable shared memory and distributed memory systems, interconnection networks (on-chip and off-chip), multi-core architectures, accelerators, embedded systems, and exascale systems.		
	Prereq: 3231 or 5231, and 2501 or Philos 1338, and CSE 3901 or 3902 or 3903, and second writing course; or Grad standing.					Prereq: 6421 (775) and 6441 (721). Not open to students with credit for 875.		
5912	Capstone Design: Game Design and Development	U G	4		6429	Advanced Studies in Computer Architecture	G	1 - 3
	Capstone design project; conceptual and technical design and implementation of interactive game, integrating custom code and toolkits; teamwork, written and oral communication skills.					Advanced-level topics in computer architecture.		
	Prereq: 3541 or 5541, and 2501 or Philos 1338, and CSE 3901 or 3902 or 3903, and second writing course; or Grad standing.					Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.		
5913	Capstone Design: Computer Animation	U G	4		6431	Advanced Operating Systems	G	3
	Capstone design project: conceptual and technical design and implementation of computer animation incorporating animation elements; teamwork, written and oral communication skills.					Advanced topics in operating systems and concurrency; introduction to distributed systems.		
	Prereq: 3541 or 5541, and 2501 or Philos 1338, and CSE 3901 or 3902 or 3903, and second writing course; or Grad standing.					Prereq: 2431 (660) or 5431. Not open to students with credit for 760.		
5914	Capstone Design: Knowledge-Based Systems	U G	4		6439	Advanced Studies in Operating Systems	G	1 - 3
	Capstone design project; conceptual and technical design; theory and practice of knowledge-based systems; teamwork, written and oral communication skills.					Advanced-level topics in operating systems.		
	Prereq: 3521 or 5521, and 2501 or Philos 1338, and CSE 3901 or 3902 or 3903, and second writing course; or Grad standing.					Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.		
5915	Capstone Design: Information Systems	U G	4		6441	Parallel Computing	G	3
	Capstone design project; information system principles: database design methods and tools, indexing, searching, application development, testing, evaluation; teamwork, written and oral communication skills.					Principles and practice of parallel computing; design, implementation, and performance evaluation of parallel programs for shared-memory, distributed-memory and heterogeneous parallel systems.		
	Prereq: 3241 or 5241, and 2501 or Philos 1338, and CSE 3901 or 3902 or 3903, and second writing course; or Grad standing.					Prereq: 5441 (621). Not open to students with credit for 721.		
6193	Individual Studies in Computer Science and Engineering	G	1 - 10		6449	Advanced Studies in Parallel Computing	G	1 - 3
	Designed to give the student an opportunity to pursue special studies not otherwise offered.					Advanced-level topics in parallel computing.		
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.					Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.		
	This course is graded S/U.				6461	Computer Communication Networks	G	3
6194	Group Studies in Computer Science and Engineering	G	1 - 10			Foundational understanding of network analysis, error-control, routing, congestion-control, multi-access, and their examples in the context of the existing communication networks.		
	Designed to give the student an opportunity to pursue special studies not otherwise offered.					Prereq: ECE 6001 (804), Stat 3470 (428), 520, or Math 530, or undergraduate course in probability. Not open to students with credit for 861, 862, ECE 6101, 861, or 862. Cross-listed in ECE 6101.		
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.				6469	Advanced Studies in Computer Networking	G	1 - 3
6239	Advanced Studies in Software Engineering	G	1 - 3			Advanced-level topics in computer networking.		
	Advanced-level topics in software engineering.					Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.		
	Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.				6539	Advanced Studies in Artificial Intelligence	G	1 - 3
						Advanced-level topics in artificial intelligence.		
						Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.		
6559	Advanced Studies in Computer Graphics	G	1 - 3		6569	Advanced Studies in Computer Networking	G	1 - 3
	Advanced-level topics in computer graphics.					Advanced-level topics in computer networking.		
	Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.					Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.		

108 Computer Science and Engineering

6998 MS Research in Computer Science and Engineering G ½ - 10

MS research in Computer Science and Engineering.
Repeatable to a maximum of 10 completions. This course is graded S/U.

6999 MS Thesis Research in Computer Science and Engineering G 1 - 10

MS research in Computer Science and Engineering, leading to a thesis.
Repeatable to a maximum of 10 completions. This course is graded S/U.

8194 Group Studies in Computer Science and Engineering G 1 - 10

Designed to give the student an opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 completions.

8998 PhD Research in Computer Science and Engineering G ½ - 10

PhD research in Computer Science and Engineering.
Repeatable to a maximum of 10 completions. This course is graded S/U.

8999 PhD Dissertation Research in Computer Science and Engineering G 1 - 10

PhD research in Computer Science and Engineering, leading to a dissertation.
Repeatable to a maximum of 10 completions. This course is graded S/U.

Construction Systems Management

1100 Exploring Construction Systems Management U ½

Basic understanding of the global trends within construction systems management, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development

2193 Individual Studies U 1 - 3

Introductory individual study of problems and topics not included in regular Construction Systems Management courses.
Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

2194 Group Studies U 1 - 5

Introductory group studies of selected topics in Construction Systems Management
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

2205 Introduction to Construction Systems Management U 3

Overview of commercial, industrial, institutional, transportation and residential sectors of the construction industry and the role of the construction manager. Introduction to planning, scheduling, estimating, safety and ethics in construction.
Prereq or concur: Math 1148, 1149, 1150, or 1151. Not open to students with credit for 1205 or 3450. This course is available for EM credit.

2210 Graphic Presentation U 2

Presentation of three-dimensional objects by precise graphics: orthographic, sectional, pictorial, and introduction to computer graphics.

2240 Construction Materials and Methods I U 3

A study of the principles and practices in basic metal fabrication using the current joining, metallurgical and welding processes required in the construction industry.
Prereq or concur: Math 1130, 1148, 1149, 1150 or 1151. Not open to students with credit for AgSysMt 2240. This course is available for EM credit.

2241 Construction Materials and Methods II U 3

Material selection and construction methods for residential and commercial construction with an emphasis on wood, masonry, and concrete.
Prereq or concur: 2205. Not open to students with credit for AgSysMt 2241. This course is available for EM credit.

2305 Professional Development I U 2

Business communications and professional development in construction systems management including informative and persuasive writing, academic planning, project management, research techniques, teaming, report writing and presentations.
Prereq: English 1110. Not open to students with credit for AgSysMt 2305. This course is available for EM credit.

2310 Electrical and Lighting Systems for Buildings U 3

Concepts of electricity and illumination applied to the design and installation of electrical and lighting systems in buildings including safety, code requirements, installation methods, electrical schematics, and construction blueprints.
Prereq: Math 1148, 1149, 1150, or 1151. Prereq or concur: Physics 1200 or 1250. This course is available for EM credit.

2345 Mechanical Systems for Buildings U 3

Fundamentals of HVAC, plumbing, fire protection and noise and vibration control and their impact on building design and construction.
Prereq: Math 1148, 1149, 1150, or 1151. Prereq or concur: Physics 1200 or 1250. This course is available for EM credit.

2440 Construction Surveying and Site Development U 4

Principles of soil mechanics, erosion control, layout, and surveying as applied to site development for residential and commercial construction.
Prereq: 2210 or Engr 1182.01 or 1182.02 or 1182.03, and CSE 1112 or Engr 1181.01 or 1181.02 or HCS 2401. Prereq or concur: ENR 3000. This course is available for EM credit.

2600 Construction Safety and Health U 3

Construction safety and health practices, strategies and methods for the development and management of safety and health programs in the construction industry.
Prereq: 2205. This course is available for EM credit.

3191 Internship in Construction Systems Management U 2

A pre-approved internship of planned and supervised work experiences which provide professional and technical growth in the construction industry.
Prereq: ConSysM 2305 (ConSysMt 305), and 8 sem cr hrs in ConSysM or 11 qtr cr hrs in ConSysMt courses, or some combination thereof, and permission of internship coordinator. Not open to students with credit for ConSysMt 489 or AgSysMt 3191 (AgSysMgt 489).

3450 Estimating for Construction U 4

Reading and interpretation of construction drawings and specifications for construction projects. Estimating the material requirements and costs of building construction projects using commercially available estimating tools.
Prereq: 2240, 2241, 2310, 2345, and Physics 1200 or 1250. Prereq or concur: ConSysM 2440.

3451 Scheduling Construction Projects U 4

Planning, scheduling and tracking of construction project elements including management of time, resources, cost and safety.
Prereq: 2440 and 3450.

3545 Structures for Construction Mgrs I U 3

Principles of statics, material properties, structural analysis and design theory useful in understanding the design, and managing the construction, of steel and wood structures. Overview of structural loads on buildings and bridges, types of structural systems, and accurate construction drawing interpretation.
Prereq: 2240, 2241, and Physics 1200 or 1250. Prereq or concur: ConSysM 2440.

3546 Structures for Construction Mgrs II U 3

A continuation of CSM 3545 to include steel, concrete and masonry structures and design methodologies, including foundation design and building systems integration of structural components. Further review of construction drawings, submittals and actual project observations will be utilized as opportunities are available throughout the course.
Prereq: 3545.

4193 Individual Studies U 1 - 3

Intermediate individual study of problems and topics not included in regular Construction Systems Management courses.
Prereq: GPA 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4194 Group Studies U 1 - 5

Intermediate group studies of selected topics in Construction Systems Management.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

4605 Professional Development II U 1

Development and pursuing career plans; strategies and programs for employment in the construction industry, professional development, personal growth, and relationships.
Prereq: 2305 (ConSysMt 305), 3451 (ConSysMt 541), and AgrComm 3130 (390) or Comm 2110 (321), and any second writing course numbered 2367 (367). Not open to students with credit for ConSysMt 605 or AgSysMt 4605 (AgSysMgt 605).

4641 Construction Project Management U 2

The management of standard commercial/residential construction projects, including planning, scheduling, materials management, resource procurement, codes and standards, construction funding, personnel management and labor unions.
Prereq: 3451.

4642 Construction Control - Contracts and Documents U 3

Documents used in the construction industry will be discussed and applied; including types of contracts, bidding and negotiating, administration and quality control of construction contracts.
Prereq: 3451.

4660 Heavy Construction Management U 3

Methods, materials, equipment, and planning of heavy construction projects. Economics of equipment acquisition and operation. Equipment selection, performance characteristics, and production rates.
Prereq or concur: 3451.

4900 Construction Management Capstone U 3

Skills in estimating, scheduling, blueprint reading, teamwork, oral written communication, management principles, and contracts/documents used to develop solutions to industry provided construction related problems.
Prereq or concur: 3546, 4641, 4642, and 4660.

4998 Undergraduate Research U 1 - 3

Supervised undergraduate research on various topics.
Prereq: CPHR 2.5 or above, and permission of the instructor. Repeatable to a maximum of 6 cr hrs or 4 completions. This course is graded S/U.

Construction Systems Management 109

4999 Research with Distinction U 1 - 3

Conducting and reporting research with Distinction. Students are expected to present at the CFAES Undergraduate Research and the Denman University Undergraduate Research forums.

Prereq: GPA 3.0 or above, GPA 3.0 or above in ConSysM, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

4999H Honors Research with Distinction U 1 - 3

Conducting and reporting honors research with distinction. Students are expected to present at the CFAES Undergraduate Research and the Denman University Undergraduate Research forums.

Prereq: Honors standing, and FAES 4590.01H (590H), and CPHR 3.4 or above, and GPA 3.4 or above in ConSysM, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5670 Green Building and Sustainable Construction U G 3

Introduction to LEED rating systems, major components of sustainable building design and construction as well as other environmental and economic issues of sustainable built environments.

Prereq: Jr, Sr, or Grad standing. Not open to students with credit for ConSysMt 670.

5680 Construction Renovation and Demolition U G 3

The practices, procedures and management strategies employed by construction managers in renovating and demolishing buildings and other structures.

Prereq or concur: ConSysM 4642 (ConSysMt 642), or permission of instructor.

6193 Individual Studies G 1 - 3

Advanced individual study of problems and topics not included in regular Construction Systems Management courses.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

6194 Group Studies G 1 - 5

Advanced group studies of selected topics in Construction Systems Management.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

Consumer Sciences

2910 Consumer Problems and Perspectives U 3

Study of common imperfections in the market which manifest themselves in safety, fairness, quality, information and education concerns for consumers.

Prereq: Not open to students with credit for CSCFMFNS 243. GE soc sci orgs and polities course.

2990 Professional Development U 1

The professional: Overview of the internship and job search process, networking, involvement in professional organizations and continued development.

Prereq: Soph standing or above, and enrollment in a ConSci major (CSCFFS, CSFRSt, CSHspMg). Not open to students with credit for 595. This course is graded S/U.

3191 Internship U 3

Supervised practical experience at a department approved internship site related to the student's selected major. Includes an investigation and analysis of assigned problems and documentation of experience.

Prereq: 2990 (595), 2.0 CPHR or above, and Jr standing; and CS major: Consumer and Family Financial Services, Fashion and Retail Studies, Hospitality Management. Not open to students with credit for 589.02, CSFsnsRTS 289, 589, CSHspMg 570, or 571. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

3930 Consumer Decision-Making I U 3

Contemporary consumer behavior theories and decision-making processes with implications for consumers, marketers, policy makers and managers in a global economy.

Prereq: 2910 and Econ 2001.01. Not open to students with credit for 543.

3940 Consumer Information: Methods of Data Analysis U 3

Application of marketing research and statistical analysis using spreadsheet applications to examine consumers, consumption patterns, workforce behavior, and retailer/marketplace responses.

Prereq: Stat 1350, 1430, or 1450, and CSE 1111 or 2111. Not open to students with credit for 340.

4990 Practicum in Consumer Sciences U 1 - 3

Practical applications of fashion and retail studies, hospitality management, or consumer and family financial services; students work individually with a faculty member on a project.

Prereq: Permission of instructor. Not open to students with credit for CSFsnsRTS 590 or CSTxCI 590. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

4998 Undergraduate Research in Consumer Sciences U 1 - 3

Supervised undergraduate research in various phases of consumer sciences under the guidance of a faculty member.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4998H Undergraduate Honors Research in Consumer Sciences U 1 - 3

Supervised undergraduate honors research in various phases of consumer sciences under the guidance of a faculty member.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

5193 Individual Studies in Consumer Sciences U G 1 - 4

Problems in various phases of consumer sciences chosen for individual study under the guidance of a faculty member.

Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

5194 Group Studies in Consumer Sciences U G 1 - 4

Problems in various phases of consumer sciences chosen for group study under the guidance of a faculty member.

Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions.

5798 Study Tour U G 1 - 12

Specific content, location, term(s) of offering and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 2 completions.

6000 Introduction to Research in Consumer Sciences G 3

Research literature in consumer sciences; development of the principles of scholarly research.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 700 or CSCFmNs 738 or CSFsnRs 777.01.

6010 Individual and Family Behavior in the Market Place G 3

Study of consumer behavior in purchase of goods and services, with emphasis on applications to effective marketing management decisions from the consumer perspective.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 701.

6020 Theories and Models in Consumer Sciences G 3

Survey of theories and models that serve as the foundation for research in Consumer Sciences; including theories from economics, psychology, and sociology.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 702.

7193 Individual Studies in Consumer Sciences G 1 - 4

Problems in various phases of consumer sciences chosen for individual study under the guidance of a faculty member.

Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 16 cr hrs or 16 completions. This course is graded S/U.

7194 Group Studies in Consumer Sciences G 1 - 4

Problems in various phases of consumer sciences chosen for group study under the guidance of a faculty member.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 16 completions.

7230 Measurement and Analysis of the Economic Status of Consumer Units G 3

Measurement and analysis of the economic status of consumer units including key concepts, determinants, policy implications, and implications for research.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 739.

7240 Theories and Models in Consumer Sciences II G 3

Aspects of consumers' family life are analyzed from the perspective of economic theories. Emphasis is placed on implications of the theories for design and interpretation of empirical studies.

Prereq: Intermediate Microeconomics. Not open to students with credit for 740.

7900 Graduate Seminar in Consumer Sciences G 1

Scholarly presentations of current research by students, faculty and invited speakers to stimulate critical thinking and discussion of implications for consumers.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 800. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.

7991 Research Practicum in Consumer Sciences G 1 - 4

Supervised participation in empirical research inclusive of research design selection, and/or data collection, and/or data analysis, and/or manuscript preparation.

Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions.

7992 Teaching Practicum in Consumer Sciences G 1 - 4

Supervised participation in college teaching inclusive of pedagogy selection, and/or development of teaching techniques, and/or development of course content, and/or development of assessment pieces, and/or classroom instruction.

Prereq: 6000 (700), and grad standing; or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions.

7999 Research for Thesis G 1 - 12

Research for Masters Thesis.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

110 Consumer Sciences

8193 Individual Studies in Consumer Sciences	G	1 - 4	
Problems in various phases of consumer sciences chosen for individual study under the guidance of a faculty member.			
Prereq: 6000 (700), and grad standing; or permission of instructor. Repeatable to a maximum of 16 cr hrs or 16 completions. This course is graded S/U.			
8250 Normative Approaches to Consumer Sciences	G	3	
Focuses on derivation of normative guidelines for household financial decisions, but normative guidelines related to other aspects of consumer sciences will also be covered.			
Prereq: Intermediate microeconomics, introductory statistics, and introductory differential calculus. Not open to students with credit for 741 or CsFmScM 741.			
8260 Behavioral Approaches to Consumer Sciences	G	3	
Economic behaviors are analyzed from psychological perspectives to understand factors that motivate consumption, saving, and related economic behaviors.'			
Prereq: Grad standing, and permission of instructor.			
8270 Managing Consumer Risk	G	3	
An examination of challenges involved in managing consumer risk. Topics include the economics of risk, methods of risk management, and quantitative risk analysis.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 872.			
8280 Advanced Quantitative Methods in Consumer Sciences	G	3	
Quantitative research methods applied to answering current research questions in consumer sciences. Emphasis is on advanced topics relevant to the analysis of secondary data.			
Prereq: Basic course in regression, and permission of instructor. Not open to students with credit for CSCFmFnS 881.			
8890 Special Topic Seminar: Consumer Economics	G	3	
Survey of literature on specific consumer economics topics with emphasis on identifying research problems, assessing significance, reviewing literature, conducting research, and preparing professional presentations.			
Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.			
8891 Special Topic Seminar: Family Finance	G	3	
Survey of literature on specific family finance topics with emphasis on identifying research problems, assessing significance, reviewing literature, conducting research, and preparing professional presentations.			
Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.			
8894 Special Topic Seminar: Fashion & Retail Studies	G	3	
Survey of literature on specific fashion and retail topics with emphasis on identifying research problems, assessing significance, reviewing literature, conducting research, and preparing professional presentations.			
Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.			
8896 Special Topic Seminar: Hospitality Management	G	3	
Survey of literature on specific hospitality management topic with emphasis on identifying research problems, assessing significance, reviewing literature, conducting research, and preparing professional presentations.			
Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.			
8999 Research for Dissertation	G	1 - 12	
Research for dissertation.			
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.			

Consumer Sciences: Consumer&Family Financial Servs

2260 Family Financial Management	U	3	
The management of family financial resources; topics include financial planning and budgeting, insurance, credit, and savings and investments.			
Prereq: Not open to students with credit for CSCFmFnS 260.			
2990 Professional Development	U	1	
The professional: Overview of the internship and job search process, networking, involvement in professional organizations and continued development.			
Prereq: Soph standing or above, and enrollment in CSCFFS major. Not open to students with credit for 595. This course is graded S/U.			
3191 Internship	U	3	
Supervised practical experience at a department approved internship site related to the student's selected major. Includes an investigation and analysis of assigned problems and documentation of experience.			
Prereq: 2990 (595), 2.0 CPHR or above, and Jr standing; and CSCFFS major. Not open to students with credit for 589.02. This course is graded S/U.			
3260 Family Financial Management: Theory and Practice	U	3	
Introduction to the practice and profession of family financial planning process, emphasizing the data collection, communication, and technical skills required of the financial planner.			
Prereq: 2260 or 9 credit hours of BUSFIN courses at the 3000-level or higher. Not open to students with credit for CSFmFnS 359 or CSFmRsM 359.			
3270 Families in Business	U	3	
Students explore family business topics such as family dynamics, conflict, gender, ethnicity, and relative to the business formation: growth, strategic management, professionalization and succession.			
Prereq: Soph standing or above. Not open to students with credit for CSFmFnS 567.			
4130 Consumer Decision Making II	U	3	
Theory and practice of rational consumer decision making under uncertainty with application to decision-making of oneself and for clients.			
Prereq: CONSCI 3930, and Econ 2001.01; and Stat 1350, or 1430, or 1450.			
4150 Quantitative Methods in Consumer Sciences	U	3	
Application of data analysis to facilitate decision making with respect to consumer sciences.			
Prereq: ConSci 3940 (340), and Stat 1430 (133), 1350 (135), or 1450 (145), and CSE 1111 (101), 2111 (200), or 1223 (201). Not open to students with credit for CSCFmFnS 644.			
4260 Family Tax Planning	U	3	
Analyze and evaluate financial decisions by families at various points in family life cycle, apply economic principles and understanding of basic tax policy to family financial decisions.			
Prereq: 3260 (CSCFmFnS 359). Not open to students with credit for CSCFmFnS 560.			
4270 Retirement Planning and Employee Benefits	U	2	
Evaluation of retirement plans and employee benefits with consideration of the interwoven factors of Social Security, pension, private savings, and health insurance.			
Prereq: CSCFFS 3260 (CSCFmFnS 359). Not open to students with credit for CSCFmFnS 561 or CSFmRsM 561.			
4280 Intergenerational Resource Management	U	2	
Key topics in planning for transfer of family estate, focusing on strategies that conserve family wealth while being consistent with family financial goals.			
Prereq: CSCFFS 3260 (CSCFmFnS 359). Not open to students with credit for CSCFmFnS 568.			
5130 Solutions to Consumer Problems	U G	3	
Consumer problems are defined and characterized using an economics approach. Private and public solutions to consumer problems are then examined and evaluated.			
Prereq: ConSci 2910 and Econ 2001.01. Not open to students with credit for CSCFmFnS 443 or CSFmRsM 443.			
5140 Topics in Consumer Sciences	U G	3	
Timely topics in consumer sciences are examined in depth.			
Prereq: Econ 2001.01 and Stat 1350, 1430, or 1450, or permission of instructor. Repeatable to a maximum of 6 cr hrs.			
5260 Family Financial Management Applications	U G	4	
Family financial management concepts are applied to evaluate financial goals and prepare a comprehensive financial plan for a household.			
Prereq: B- or higher in 3260, and 4260; and BusFin 3120 or 3220. Prereq or concur: 4270, 4280, BusFin 3300, and 3222 or 4221. Not open to students with credit for CSCFmFnS 660.			

Consumer Sciences: Fashion and Retail Studies

2300 Branding in Fashion, Hospitality and Sport Industries	U	3	
Examine branding as a business strategy in fashion, hospitality, sport and special events industries, including luxury, mass market, and boutique fashion, hotel and restaurant brands. Cross-listed in CSHspMg.			
2370 Aesthetics of Fashion & Retail	U	3	
The perception and presentation of self and its surrounding environment through use of aesthetics with consideration of foundations of design, physical characteristics, environment, personal expression, and context.			
Prereq: Not open to students with credit for CSFsnRts 270 or 375.			
2371 Textiles	U	3	
Fiber, yarn, and fabric characteristics, textile coloration and finishes; textile selection for specific end uses; laundering and care; new textile products and industry trends.			
Prereq: Not open to students with credit for CSFsnRts 371.			
2372 Appearance, Dress, and Cultural Diversity	U	3	
A cross-cultural study of the diversity and meaning of appearance and dress as manifestations of individual and group behavior, social organizations, and cultural norms.			
Prereq: Not open to students with credit for CSFsnRts 372. GE soc sci indvs and groups course.			
2373 Business of Fashion & Retailing	U	3	
Survey of fashion industry supply chain, business structure, design, manufacture, sourcing, distribution, and retail functions along with industry terminology, current topic analysis, and career options.			
Prereq: Not open to students with credit for CSFsnRts 275.			

Consumer Sciences: Fashion and Retail Studies 111

2374 Twentieth Century Fashion and Beyond	U 3	4585 Merchandise Buying and Management	U 3
Relationship between culture, society and fashion in the 20th century, the influence of historic dress on contemporary fashion, and industry developments leading to mass fashion.		Retail buyer's role in merchandise management: decision making, planning, buying, pricing, and preparing merchandise for sale. Analysis and synthesis of merchandising management practices and problems.	
Prereq: English 1110. Not open to students with credit for CSFnRIS 674. GE historical study course.		Prereq: 2373 (CSFnRIS 275) with C- or better, Math 1130 (130), AcctMIS 2000 (310), CSE 2111 (200), and Jr standing; or permission of instructor. Not open to students with credit for CSFnRIS 685.01 or 685.02.	
2990 Professional Development	U 1	4680 Strategic Management in Fashion & Hospitality Industries	U 2
The professional: overview of the internship and job search process, networking, involvement in professional organizations and continued development.		Discussion, development and application of strategic management in fashion and hospitality industries.	
Prereq: Soph standing or above, and enrollment in CSFRST major. Not open to students with credit for 595. This course is graded S/U.		Prereq: Sr standing, or enrolled in HRL certificate program. Cross-listed in CSHspMg.	
3191 Internship	U 3	7575 Psycho-social and Cultural Aspects of Dress	G 3
Supervised practical experience at a department approved internship site related to the student's selected major. Includes an investigation and analysis of assigned problems and documentation of experience.		In-depth study of research and social science theories as applied to appearance and dress as manifestations of individual and group consumer behavior.	
Prereq: 2.0 CPHR or above, and Jr or Sr standing, and CSFRST major. Prereq or concur: 2990 (595) or ConSci 2990. Not open to students with credit for 589.02. This course is graded S/U.		Prereq: ConSci 6000 (700), or Grad standing, or permission of instructor.	
3330 Corporate Social Responsibility, Sustainability & Entrepreneurship in Fashion & Hospitality Indus	U 2	Consumer Sciences: Hospitality Management	
Examination of corporate socially responsible and sustainable decision-making and regulatory processes used in advertising and promoting fashion retail and hospitality products and services.		2200 Introduction to Healthcare Environmental and Hospitality Services	U 3
Prereq: Jr or Sr standing, or enrolled in HRL certificate program. Cross-listed in CSHspMg.		An application and discussion of healthcare business and analysis of critical healthcare areas in relation to hospitality business.	
3470 Apparel Product Design and Branding	U 5	2300 Branding in Fashion, Hospitality, and Sport Industries	U 3
Study of apparel design using a variety of hand and computer media: apparel product development.		Examine branding as a business strategy in fashion, hospitality, sport and special events industries, including luxury, mass market, and boutique fashion, hotel and restaurant brands. Cross-listed in CSFRST.	
Prereq: C- or higher in 2372 (CSFnRIS 372) and 2370 (270). Not open to students with credit for CSFnRIS 370 and 670.		2600 Introduction to Hospitality Management	U 2
3471 Apparel Manufacturing Decisions	U 3	Overview of the hospitality-tourism industry. Introduction to and career exploration of various segments of the hospitality-tourism field.	
View of the fashion supply chain that examines the life of a garment from farm to textile, garment to shelf. Investigate parameters of textile apparel quality, standards and evaluation, and assurance of quality throughout the factory garment construction phases. Learn about retailers' involvement throughout the process and logistical decision making needed to avoid quality issues. Recommended prereq: Chem 1110 (102).		Prereq: Not open to students with credit for 230.	
Prereq: C- or higher in 2373 (CSFnRIS 275) and 2371 (371). Not open to students with credit for CSFnRIS 571.		2700 Principles of Food Production Management	U 3
3474 Fashion Forecasting	U 3	Application of scientific food preparation and management principles to quantity food production in a commercial establishment.	
Analysis and application of trend forecasting practices in all aspects of the fashion industry.		Prereq: 2600 or 1600 (230), or enrollment in Culinary Science major. Concur: 2710. Not open to students with credit for 350.01 or 350.02.	
Prereq: C- or higher in 2370 (CSFnRIS 270), and 2373 (275). Not open to students with credit for CSFnRIS 200 or 374.		2710 Principles of Food Production Management Laboratory	U 1
3950 Use of Social Media and IT in Fashion, Hospitality, and Sport Industries	U 2	Applying scientific food preparation principles to quantity food production in a laboratory setting.	
An application and discussion of social media and information technology strategies in fashion, sport, and hospitality industries.		Prereq: 2600 or 1600 (230), or enrollment in Culinary Science major. Concur: 2700 (350.01). Not open to students with credit for 350.01 or 350.02.	
Prereq: Jr or Sr standing, and a major, pre-major, or minor in CSFRST, CSHspMg, or KnSISM. Not open to students with credit for CSHspMg 650. Cross-listed in CSHspMg.		2800 Hotel Management	U 3
4570 Apparel Product Development and Technical Packages	U 3	An examination of the lodging firm as an operating entity, including structure, management strategies, functional departments, related financial reports and revenue management.	
Study of computer-aided design software programs, and creative and technical apparel brand development. Recommended prereq: 3471 and 3474.		Prereq or concur: 2600 (1600 (230)). Not open to students with credit for 560.	
Prereq: A grade of C- or above in 3470.		2810 Hotel Management Practicum	U 1
4575 Retail Environments	U 3	Provide exposure to the lodging/hotel sector via experiences in Front of the House and Heart of the House in a real operating environment.	
Analysis of the influence of store environment characteristics on consumer behavior in various retail formats.		Prereq or concur: 2600 (1600 (230)) and 2800 (4800). Not open to students with credit for 552.	
Prereq: 2370 (CSFnRIS 270) with C- or higher. Not open to students with credit for CSFscRTS 525.		2990 Professional Development	U 1
4576 Global Sourcing and Trade in Textile Products	U 3	The professional: overview of the internship and job search process, networking, involvement in professional development organizations and continued development.	
International factors affecting the textiles and textile products industries and their impact on the economy and consumers.		Prereq: Soph standing or above, and enrollment in CSHSPMG major. Not open to students with credit for 595. This course is graded S/U.	
Prereq: 2373 (CSFnRIS 275) with C- or higher. Prereq or concur: 3471 (571) with C- or higher. Not open to students with credit for CSFnRIS 576.		3191 Internship	U 3
4577 Fashion & Retail Promotion	U 3	Supervised practical experience at a department approved internship site related to the student's selected major. Includes an investigation and analysis of assigned problems and documentation of experience.	
Contemporary models, concepts and practice of image management, integrating marketing communications, media, and promotions from fashion industry perspectives.		Prereq: 2990 (595), 2.0 CPHR or above, and Jr standing; and CSHSPMG major. Not open to students with credit for 589.02. This course is graded S/U.	
Prereq: 3474 (CSFnRIS 374) with C- or higher, and BusML 3150 (450). Not open to students with credit for CSFnRIS 577.		3330 Corporate Social Responsibility, Sustainability & Entrepreneurship in Fashion & Hospitality Indus	U 2
4583 International Retailing	U 3	Examination of corporate socially responsible and sustainable decision-making and regulatory processes used in advertising and promoting fashion retail and hospitality products and services.	
Study of retailers using expansion outside domestic market as strategy; reasons and process of internationalization; social, legal and economic factors influencing internationalization.		Prereq: Jr or Sr standing, or enrolled in HRL certificate program. Cross-listed in CSFRST.	
Prereq: 2373 (CSFnRIS 275), CSE 2111 (200), Stat 1350 (135) or 1450 (145), AcctMIS 2000 (310), and Jr standing. Not open to students with credit for CSFnRIS 683.		3700 Controlling Food, Beverage, and Labor Costs	U 3
		Course will demonstrate effective and efficient controls of prime costs in a foodservice operation without sacrificing quality and good customer service.	
		Prereq: 2600 (1600), and Hospitality Management major; or a premajor or major in Human Nutrition: Dietetics, Culinary Science, or Professional Golf Management. Not open to students with credit for 370.	

112 Consumer Sciences: Hospitality Management

3720 Food Service Management	U 3	8610 Human Resource Management in the Hospitality and Retail Industries	G 3
Identification of the crucial elements involved in the successful operation of a foodservice enterprise and demonstrate their inter-relationships. Special emphasis will be on customer service and employee development.		Provides an overview of research on human resource management focused on the hospitality and retail industries. Emphasis is placed on organizational structure, employee behavior, performance, employee turnover, and retention.	
Prereq or concur: 2600 (1600), or enrollment in Human Nutrition: Dietetics major. Not open to students with credit for 551.		Prereq: Grad standing, or permission of instructor.	
3730 Food Service Management Practicum	U 1	8630 Services in the Hospitality and Retail Industries	G 3
Application of customer service and restaurant management responsibilities in a real operating foodservice environment.		Provides an extensive overview of research on services focused on the hospitality and retail industries. Emphasis builds on theories associated with service, quality, customer satisfaction, and customer loyalty.	
Prereq or concur: 2600 and 3720, or enrollment in Human Nutrition: Dietetics major. Not open to students with credit for 551.		Prereq: Grad standing, or permission of instructor.	
3910 Consumer Service and Satisfaction	U 3	8640 Managing Hospitality and Retail Operations	G 3
Provides students with an intellectual and hands-on understanding of the key consumer service management and consumer satisfaction theories and practices that are relevant in service sectors.		Provides an extensive overview of research focused on the hospitality and retail industries. Emphasis builds on theories associated with hospitality/retail operations.	
Prereq: Not open to students with credit for 310.		Prereq: Grad standing, or permission of instructor.	
3950 Use of Social Media and IT in Fashion, Hospitality, and Sport Industries	U 2	8660 Recent Developments in Hospitality Systems Management	G 3
An application and discussion of social media and information technology strategies in fashion, sport, and hospitality industries.		Analysis of selected topics in hospitality systems management.	
Prereq: Jr or Sr standing, and a major, pre-major, or minor in CSFRSt, CSHspMg, or KNSISM. Not open to students with credit for 650. Cross-listed in CSFRSt.		Prereq: Grad standing, or permission of instructor. Not open to students with credit for 832.	
4600 Special Events Planning and Management	U 3	Crop and Soil Technology	
Course will examine techniques and procedures required for producing successful events of all types including effective procurement, organization, and implementation of all event aspects.		1201T Exploring Agronomy, Sustainable Agriculture, and Crop Management and Soil Conservation	U ½
Prereq: 2700 (350.01). Not open to students with credit for 661.		Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.	
4610 Beverage Management	U 2	2189T Practicum in Crop and Soil Technologies	U 1
A discussion of the varieties, merchandising and management control of alcoholic and non-alcoholic beverages served in the hospitality industry.		Supervised experiences in field, laboratory, and/or industry work. A grade of C or higher required to meet graduation requirements.	
Prereq: Sr standing, and 2600 (230), and 3720; or Sr standing and enrollment in Culinary Science major. Not open to students with credit for 400.		Repeatable to a maximum of 3 cr hrs.	
4620 Tourism & Culture	U 3	2191T Crop and Soil Internship	U 3
An overview of the tourism industry including travel motivation and the impacts, both positive and negative, of social, environmental, and economic influences.		Supervised employed work experience on a crop production farm or related industries. A grade of C or better is required to meet graduation requirements.	
4640 Marketing in Hospitality Enterprises	U 3	Prereq: Soph standing, and CPHR 2.0 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs.	
Designed to provide students with an intellectual and hands-on understanding of the key hospitality marketing and hospitality entrepreneurship.		2193T Individual Studies	U 1 - 3
Prereq: Jr or Sr standing. Not open to students with credit for 680.		Designed to give an individual student an opportunity to pursue special studies not offered in other courses.	
4650 Human Resources in the Hospitality Industry	U 3	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.	
Advanced management skills in specific application to the many facets of the Hospitality Industry with a focus on Hospitality Organizational structure and behavior and human resource management.		2194T Group Studies	U 1 - 3
Prereq: 3720 (551) and 2800 (4800 or 560). Not open to students with credit for 650.		Designed to give groups of students an opportunity to pursue special studies not offered in other courses.	
4680 Strategic Management in Fashion & Hospitality Industries	U 2	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.	
Discussion, development and application of strategic management in fashion and hospitality industries.		2200T Introduction to Sustainable Agriculture	U 2
Prereq: Sr standing, or enrolled in HRL certificate program. Cross-listed in CSFRSt.		A holistic study of farming systems and an examination of sustainable management practices for healthy soils, crops, and livestock.	
4710 Foodservice Facilities Design	U 3	This course is available for EM credit.	
The examination of the organization of the foodservice system, the selection of equipment, layout of the foodservice establishment, and the management of the facility.		2201T Sustainable Cropping Systems and Marketing	U 3
Prereq: 2700 (350.01) and 3700 (370).		A study of cropping systems and marketing strategies related to sustainable agricultural enterprises.	
4750 Casino Operations	U 3	Prereq: 2200T (220T). This course is available for EM credit.	
Course will focus on the unique nature of the casino industry and its relationship to other hospitality enterprises.		2210T Sustainable Agriculture Methods	U 1
Prereq: 3720 (551) and 4800 (560).		Applications of sustainable agricultural systems including cropping, animal operations, and other business enterprises.	
4798 Tourism & Culture - Study Abroad - Bali	U 3	Prereq: 2200T (220T). This course is available for EM credit.	
An overview of the tourism industry including travel motivation and the impacts, both positive and negative, of social, environmental, and economic influences.		2228T Manure Management	U 3
4820 Revenue Management in the Hospitality Industry	U 3	A study of the biological, chemical, and physical components of animal manures; methods for safe handling and storage; and land application.	
An examination of the hotel revenue management practices including: pricing, occupancy management, cost-profit-volume analysis and forecasting.		This course is available for EM credit.	
Prereq: 2800 (560). Not open to students with credit for 561.		2265T Integrated Pest Management	U 2
5780 Hospitality Management Leadership	U G 3	A review and application of sustainable methods for controlling disease, insect, and weed pests in crops.	
Advanced hospitality professional course incorporating all principles of hospitality management in the various sectors and unique applications of knowledge learned.		Prereq or concur: 2411T (260T). Not open to students with credit for 265T. This course is available for EM credit.	
Prereq: Sr or Grad standing, or permission of instructor.		2280T Applied Precision Agriculture	U 3
7630 Advanced Food Service Systems Management: Operational Integration	G 3	An introduction to precision agriculture technologies including auto-guidance, prescription mapping, variable rate technologies, and remote sensing with a focus on practical application of the technologies in modern production systems.	
Examines current technology and trends in food service operations with an emphasis on the functional subsystems of procurement, production, distribution and service, and sanitation and maintenance.		2300T Introduction to Soil Science	U 3
Prereq: Grad standing. Not open to students with credit for 730.		An introduction to soil physical, chemical, and biological properties related to plant systems, environmental quality, and construction.	
		Prereq: Not open to students with credit for 221T. This course is available for EM credit.	

Crop and Soil Technology 113

2301T	Introduction to Soil Science Laboratory	U	1
Laboratory analysis of soil physical, chemical, and biological properties related to plant systems, environmental quality, and construction.			
Prereq or concur: 2300T. Not open to students with credit for 221T. This course is available for EM credit.			
2324T	Soil Management	U	3
A study of sustainable-use of soil resources related to soil formation, mechanics, and erosion control.			
Prereq: 2300T and 2301T. This course is available for EM credit.			
2411T	Grain and Oilseed Crops	U	3
A study of the cultural practices and production principles for grain and oilseed crops.			
Prereq: GenBiol 1200T or 1250T or Biology 1113. This course is available for EM credit.			
2412T	Technology and Field Management of Forage Crops	U	3
An applied study of the crop species, field management practices, and agricultural technologies used to grow grasses, legumes, and forbs for forage and livestock production systems.			
This course is available for EM credit.			
2422T	Weed Control Technology	U	3
An introduction to the application of technologies used to control weeds in field cropping systems, including biological, chemical, and mechanical methods.			
This course is available for EM credit.			
2580T	Soil Fertility and Fertilizers	U	3
A study of plant nutrient cycles, fertilizer recommendations, application of ag-lime, fertilizers, animal manure, and municipal biosolids.			
Prereq: 2300T and 2301T. This course is available for EM credit.			
3800T	Principles of Farm Business Management	U	4
A study of economic and management principles involved in planning, organizing, operating, and administering a farm business; emphasis placed on developing a business plan and problem solving.			
Prereq: AEDecon 2105 (BusTec 101T or 102T). Prereq or concur: BusTec 1151T (151T) or AEDecon 2001 (200). Not open to students with credit for BusTec 240T. This course is available for EM credit. Cross-listed in AnmlTec.			

Czech

1101	Elementary Czech I	U	4
Introduction to Czech; development of speaking, listening, reading, and writing skills in cultural context. Closed to native speakers.			
Prereq: Not open to students with credit for 101, or 2 or more years of study in this language in high school, except by permission of department. This course is available for EM credit. GE for lang course. FL Admis Cond course.			
1102	Elementary Czech II	U	4
Continued development of speaking, listening, reading, and writing skills in cultural context. Closed to native speakers of this language.			
Prereq: 1101 (101.01). Not open to students with credit for 102 or 103. This course is available for EM credit. GE for lang course. FL Admis Cond course.			
1103	Intermediate Czech I	U	4
Continued development of speaking, listening, reading, and writing skills in cultural context. Prereq: 1102 (102.01). Not open to students with credit for 104, or to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GE for lang course.			
2104	Intermediate Czech II	U	4
Increasing functional ability in speaking, listening, reading, and writing practice, vocabulary-building; new grammar structures; start developing higher-level language skills in Czech. Closed to native speakers.			
Prereq: 1103, or 5 cr hrs for 104.51 or 111. Not open to students with credit for 407.51.			

Dance

1101	Contemporary I	U	1 - 3
Non-major introduction to studio practice of contemporary movement forms; includes survey of the history, theory, and/or literature of contemporary movement forms.			
Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.			
1111	Ballet I	U	1 - 3
Non-major introduction to studio practice of classical ballet; includes survey of the history, theory, and/or literature of classical ballet.			
Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.			
1141	Jazz I	U	1 - 3
Non-major introduction to studio practice of jazz dance; includes survey of the history, theory, and/or literature of jazz dance.			
Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.			

1151	Hip Hop I	U	1 - 3
Non-major introduction to studio practice of hip hop dance; includes survey of the history, theory, and/or literature of hip hop dance.			
Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.			
1161	Tap I	U	1 - 3
Non-major introduction to studio practice of tap dance; includes survey of the history, theory, and/or literature of tap dance.			
Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.			
2102	Contemporary II	U	1 - 3
Non-major intermediate level studio practice in contemporary movement forms; includes survey of the history, theory, and/or literature of contemporary movement forms.			
Prereq: One year of 1101 (201.01), or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			
2103	Contemporary III	U	1 - 3
Non-major advanced level studio practice in contemporary movement forms; includes survey of the history, theory, and/or literature of contemporary movement forms.			
Prereq: One year of 2102 (202.01), or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			
2112	Ballet II	U	1 - 3
Non-major intermediate level studio practice in classical ballet; includes survey of the history, theory, and/or literature of classical ballet.			
Prereq: One year of 1111 (201.02), or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			
2113	Ballet III	U	1 - 3
Non-major advanced level studio practice in classical ballet; includes survey of the history, theory, and/or literature of classical ballet.			
Prereq: One year of 2112 (202.02), or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			
2121	Improvisation	U	1 - 3
Introduction to studio practice of improvisation; includes survey of the history, theory, and/or literature of improvisation.			
Repeatable to a maximum of 8 cr hrs or 4 completions.			
2142	Jazz II	U	1 - 3
Non-major intermediate level studio practice of jazz dance; includes survey of the history, theory, and/or literature of jazz dance.			
Prereq: One year of 1141 (201.03) or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			
2143	Jazz III	U	1 - 3
Non-major advanced level studio practice of jazz dance; includes survey of the history, theory, and/or literature of jazz dance.			
Prereq: One year of 2142 (202.03) or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			
2152	Hip Hop II	U	1 - 3
Non-major intermediate/advanced level studio practice of hip hop dance; includes survey of the history, theory, and/or literature of hip hop dance.			
Prereq: One Year of 1151 (201.06) or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			
2162	Tap II	U	1 - 3
Non-major intermediate/advanced level studio practice of tap dance; includes survey of the history, theory, and/or literature of tap dance.			
Prereq: One year of 1161 or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			
2171	Pilates Mat I	U	1 - 3
Introduction to Pilates mat for non-majors; includes survey of the history, theory, and/or literature of Pilates.			
Repeatable to a maximum of 4 cr hrs or 2 completions.			
2173	Pilates Reformer I	U	1 - 3
Introduction to Pilates reformer for non-majors; includes survey of the history, theory, and/or literature of Pilates.			
Repeatable to a maximum of 4 cr hrs or 2 completions.			
2175	Yoga	U	1 - 3
Yoga practice for non-majors; includes survey of the history, theory, and/or literature of yoga.			
Repeatable to a maximum of 8 cr hrs or 4 completions.			
2176	Bartenieff Fundamentals	U	1 - 3
Bartenieff Fundamentals taught by certified practitioner (CMA) for non-majors; includes survey of the history, theory, and/or literature of Bartenieff Fundamentals.			
Repeatable to a maximum of 4 cr hrs or 2 completions.			
2177	Alexander Technique	U	1 - 3
Alexander Technique for non-majors; includes survey of the history, theory, and/or literature of Alexander Technique.			
Repeatable to a maximum of 8 cr hrs or 4 completions.			

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2181 Social Dance	U	1 - 3	3201 Composition I	U	3
Social dance for non-majors; includes survey of the history, theory, and/or literature of social dance.					
Repeatable to a maximum of 8 cr hrs or 4 completions.					
2190 Movement Practice: Special Topics	U	1 - 3	3202 Composition II	U	3
Special topics in movement practice for non-majors.					
Prereq: Enrollment in Dance major. Repeatable to a maximum of 8 cr hrs or 4 completions.					
2201 Minors Composition	U	2 - 3	3301 Analysis	U	3
Introduction to composition for dance minors.					
Prereq: Not open to students with credit for 211.03. Repeatable to a maximum of 4 cr hrs or 2 completions.					
2301 Analysis for Minors	U	1 - 3	3401 Dance in Popular Culture	U	3
Introduction to analysis of movement for dance minors.					
Prereq: Not open to students with credit for 620.					
2367 Writing About Dance	U	3	3402 Dance in Global Contexts	U	3
Provides an opportunity to view, discuss, read, think and write about contemporary dance through the practice of criticism.					
Prereq: English 1110.01 (110) or equiv. Not open to students with credit for 367.01. GE writing and comm course: level 2.					
2367H Honors Writing About Dance	U	3	3411 History/Theory/Literature I	U	3
Provides a rigorous opportunity to view, discuss, read, think and write about contemporary dance and its history through the study and practice of criticism.					
Prereq: Honors standing, and English 1110.01 (110) or equiv, or permission of instructor. Not open to students with credit for 367.01H.					
2401 Western Concert Dance: Renaissance to Present	U	3	3412 History/Theory/Literature II	U	3
Includes European origins of classical ballet, Africanist contributions, postmodern impulses; looks at aesthetic, cultural, and political themes in the history of concert dance in America.					
Prereq: Not open to students with credit for 200. GE VPA course.					
2601 Production	U	1 - 3	3501 Dance Education	U	3
Activities in dance production; includes lectures, readings, and discussions.					
Prereq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 3 cr hrs or 2 completions. VSP Admis Cond course.					
2701 Music Skills for Dance	U	2	3801 Kinesiology	U	3
This course is an introduction to essential music skills. The content will explore foundational music theory, appreciation, and music for dance.					
Prereq: Enrollment in Dance major, or permission of instructor. Not open to students with credit for 615.					
2702 Creative Technologies for Dance	U	2	3999H Research and Creativity in Dance	U	1 - 10
Introduction to technology used in the field of dance for promotional material development and art making. Includes digital image creation / manipulation, video editing, e-portfolio building, critical image analysis and foundational composition theory.					
Prereq: Enrollment in Dance major, or permission of instructor. Not open to students with credit for 289.					
2801 Introductory Seminar I	U	1	4101 Contemporary Part I	U	1 - 3
Introduction to The Ohio State University, the College of Arts and Sciences and the Department of Dance and the available resources, academic requirements, and diverse perspectives about dance research and creative activity.					
Prereq: Enrollment in Dance major, or permission of instructor. Not open to students with credit for 100 or 615. VSP Admis Cond course.					
2802 Introductory Seminar II	U	1	4102 Contemporary Part II	U	1 - 3
Continuation of introduction to The Ohio State University, the College of Arts and Sciences and the Department of Dance and the available resources, academic requirements, and diverse perspectives about dance research and creative activity.					
Prereq: Enrollment in Dance major, or permission of instructor. Not open to students with credit for 260 or 289.02. VSP Admis Cond course.					
3101 Contemporary Part I	U	1 - 3	4111 Ballet Part I	U	1 - 3
Foundational level of contemporary movement forms for dance majors.					
Prereq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. VSP Admis Cond course.					
3102 Contemporary Part II	U	1 - 3	4112 Ballet Part II	U	1 - 3
Foundational level of contemporary movement forms for dance majors.					
Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. VSP Admis Cond course.					
3111 Ballet Part I	U	1 - 3	4189 Field Experience	U	0 - 3
Foundational level of classical ballet for dance majors.					
Prereq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. VSP Admis Cond course.					
3112 Ballet Part II	U	1 - 3	4193 Independent Study	U	1 - 10
Foundational level of classical ballet for dance majors.					
Prereq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. VSP Admis Cond course.					
Foundational level of classical ballet for dance majors.					
Prereq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. VSP Admis Cond course.					

4194 Group Studies	U	1 - 3	4802 Senior Seminar II	U	1
Group studies in dance.			The primary vehicle for the mentoring and advising of dance majors in the senior year; includes production of the senior project, current trends in the dance field, and technology literacy for dancers.		
Prereq: Undergrad standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.			Prereq: Enrollment in Dance major, and Sr standing, or permission of instructor. VSP Admis Cond course.		
4200 Choreography Workshop	U	1 - 3	4804 Interdisciplinary Workshop	U	1 - 3
Workshop providing a platform for ongoing choreographic projects, includes peer and faculty observation and critique.			Advanced problems in dance and related areas; nature of workshop based on selected topics.		
Prereq: 3201 (211.03) and 3202 (211.04), and enrollment in Dance major. Repeatable to a maximum of 18 cr hrs or 6 completions. VSP Admis Cond course.			Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. VSP Admis Cond course.		
4201 Topics in Dance Composition	U	2 - 3	4805 Interdisciplinary Practicum	U	1 - 3
Topics in dance composition.			Advanced problems in dance and related areas; nature of practicum based on selected topics.		
Prereq: 3201 (211.03) and 3202 (211.04), and enrollment in Dance major. Repeatable to a maximum of 9 cr hrs or 3 completions. VSP Admis Cond course.			Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. VSP Admis Cond course.		
4202 Music in Dance Composition	U	2 - 3	4990 Research: Special Topics	U	1 - 3
Study of music suitable for choreographic purposes and the various approaches to the use of music in dance composition.			Special topics in research.		
Prereq: Enrollment in Dance major, and 3201, or 3202, or 645 with Music 250 or 251. Repeatable to a maximum of 9 cr hrs or 3 completions. VSP Admis Cond course.			Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.		
4203 Group Forms	U	2 - 3	4998 Senior Project	U	1 - 5
Composing group dances and exploring compositional devices and craft unique to group choreography.			Activities leading to the completion of the BFA creative project; in partial fulfillment of the BFA degree.		
Prereq: Enrollment in Dance major, and 3201 (211.03), or 3202 (211.04). Repeatable to a maximum of 9 cr hrs or 3 completions. VSP Admis Cond course.			Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U. VSP Admis Cond course.		
4290 Composition: Special Topics	U	1 - 3	4998H Honors Senior Project	U	1 - 5
Special topics in composition.			Activities leading to the completion of the BFA creative project; in partial fulfillment of the BFA degree with honors.		
Prereq: Enrollment in Dance major. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.			Prereq: Honors standing or permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U. VSP Admis Cond course.		
4304 Dance Dynamics	U	3	4999 Distinction Project	U	1 - 5
Study of dynamics and phrasing through Effort theory from Laban Movement Analysis.			Activities leading to the completion of the BFA distinction project; in partial fulfillment of the BFA degree.		
Prereq: Enrollment in Dance major, 3301 (621) and 3202 (645), and Jr standing, or permission of instructor. Not open to students with credit for 605. VSP Admis Cond course.			Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U. VSP Admis Cond course.		
4490 History/Theory/ Literature Special Topics	U	1 - 3	4999H Honors Distinction Project	U	1 - 5
Special topics in history/theory/literature.			Activities leading to the completion of the BFA distinction project; in partial fulfillment of the BFA degree with honors.		
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.			Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U. VSP Admis Cond course.		
4500 Directed Teaching	U	1 - 3	5100 Alternative Movement Practice	U G	1 - 3
Designed to aid prospective teachers of dance in their development of essential teaching skills in a variety of settings.			Alternative movement practice for dance majors and graduate dance students.		
Prereq: Enrollment in Dance major, and 3501 (289.01 or 289.02), or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. VSP Admis Cond course.			Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U. VSP Admis Cond course.		
4501 Dance for Children	U	3	5101 Contemporary Part I	U G	1 - 3
Foundation for teaching dance to children.			Advanced practice in contemporary movement forms for dance majors and graduate dance students.		
Prereq: Enrollment in Dance major, and 3501 (289.01 or 289.02), or permission of instructor. Not open to students with credit for 687.01 or 687.02. VSP Admis Cond course.			Prereq: Enrollment in Dance major. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.		
4502 Methods and Materials	U	3	5102 Contemporary Part II	U G	1 - 3
Foundations for teaching; laboratory problems, lectures, readings, and discussion.			Advanced practice in contemporary movement forms for dance majors and graduate dance students.		
Prereq: Enrollment in Dance major, and 3501 (289.01 or 289.02), or permission of instructor. Not open to students with credit for 688. VSP Admis Cond course.			Prereq: Enrollment in Dance major. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.		
4700 Repertory	U	1 - 3	5105 Contemporary Dance Practice	U G	1
Studio-based experience in learning a new or existing dance work, may include informal performance.			Intermediate and advanced practice in contemporary dance for dance majors and graduate dance students, and others by permission. This is designed as a second technique class, offered later in the day, and is intended as an opportunity for deepening one's practice and technique.		
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. VSP Admis Cond course.			Prereq: Enrollment in Dance major, or permission of instructor or department. Repeatable to a maximum of 12 cr hrs.		
4701 Performance	U	1 - 3	5106 Contemporary Dance Practice Part II	U G	1
Rehearsal process and performance of a dance work choreographed by resident or visiting artists.			Intermediate and advanced practice in contemporary dance for dance majors and graduate dance students, and others by permission. This is designed as a second technique class, offered later in the day, and is intended as an opportunity for deepening one's practice and technique.		
Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. VSP Admis Cond course.			Sp Sem. Prereq: Enrollment in Dance major, or permission of instructor or department. Repeatable to a maximum of 12 cr hrs.		
4790 Repertory: Special Topics	U	1 - 3	5111 Ballet Part I	U G	1 - 3
Special topics in repertory.			Advanced practice in classical ballet for dance majors and graduate dance students.		
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.			Prereq: Enrollment in Dance major. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.		
4801 Senior Seminar I	U	1			
The primary vehicle for the mentoring and advising of dance majors in the senior year; includes grant writing and professional development.					
Prereq: Enrollment in Dance major, and Sr standing, or permission of instructor. VSP Admis Cond course.					

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5112 Ballet Part II	U G	1 - 3	5212 Dance - Film II	U G	3
Advanced practice in classical ballet for dance majors and graduate dance students. Prereq: Enrollment in Dance major. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.					
5114 Pointe	U G	1	5213 Intermedia Performance	U G	2 - 3
Pointe work in classical ballet for dance majors and graduate dance students. Concur: 2113, or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.					
5115 Ballet Practice Part 1	U G	1	5601 Production: Practicum	U G	1 - 3
Intermediate and advanced practice in classical ballet for dance majors and graduate dance students, and others by permission. This is designed as a second technique class, offered later in the day, and is intended as an opportunity for deepening one's practice and technique. Prereq: Enrollment in Dance major, or permission of instructor or department. Repeatable to a maximum of 12 cr hrs.					
5116 Ballet Practice Part II	U G	1	Hands-on exploration of elements of dance production.		
Intermediate and advanced practice in classical ballet for dance majors and graduate dance students, and others by permission. This is designed as a second technique class, offered later in the day, and is intended as an opportunity for deepening one's practice and technique. Prereq: Enrollment in Dance major, or permission of instructor or department. Repeatable to a maximum of 12 cr hrs.					
5121 Improvisation	U G	1 - 3	Prereq: Enrollment in Dance major, and 2601 (298), or Grad standing, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.		
This course is for experienced dance practitioners who have had some introductory experience with improvisation and allows for advanced explorations of dance improvisation methodologies and critical analysis of the relationship of this work to other domains. Prereq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.					
5171 Pilates Mat I	U G	1 - 2	5602 Lighting: Practicum	U G	1 - 3
Foundational level of Pilates mat for dance majors and graduate dance students. Prereq: Enrollment in Dance major. Repeatable to a maximum of 4 cr hrs or 2 completions. VSP Admis Cond course.					
5173 Pilates Reformer I	U G	1 - 2	Hands-on exploration of elements of dance lighting.		
Foundational level of Pilates reformer for dance majors and graduate dance students. Prereq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 4 cr hrs or 2 completions. VSP Admis Cond course.					
5175 Yoga	U G	1 - 3	Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.		
Yoga practice for dance and health sciences majors and graduate students. Prereq: Enrollment in Dance or Health Sciences major, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.					
5176 Bartenieff Fundamentals	U G	1 - 2	5603 Costume: Practicum	U G	1 - 3
Bartenieff Fundamentals taught by certified practitioner (CMA) for dance majors and graduate dance students. Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 4 cr hrs or 2 completions. VSP Admis Cond course.					
5177 Alexander Technique	U G	1 - 2	Hands-on exploration of elements of dance costuming.		
The relationship of kinesthetic perception and the postural reflexes to physical coordination in performance. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. Cross-listed in Theatre and Music.					
5190 Movement Practice: Special Topics	U G	1 - 3	Prereq: 2601 (298), and enrollment in Dance major; or Grad standing; or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.		
Special topics in movement practice for dance majors and graduate dance students. Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.					
5191 Eurhythmics	U G	1 - 3	5611 Technology: Practicum	U G	1 - 3
Eurhythmics for dance majors and graduate dance students. Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.					
5194 Graduate and Undergraduate Group Studies	U G	1 - 3	Hands-on exploration of elements of dance technology.		
Group studies in dance. Prereq: Grad or Undergrad standing in Dance, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.					
5200 Concert Workshop	U G	1 - 3	Prereq: Enrollment in Dance major. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.		
Workshop in preparation for bringing a choreographed piece to a performance setting, includes faculty and peer feedback. Prereq: Enrollment in Dance major. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.					
5211 Dance - Film I	U G	3	5612 Digital Video Editing: Practicum	U G	1 - 3
An introduction to creating short films of dance made specifically for the camera. Basics of camera and Final Cut Pro are taught as three film projects are created. Prereq: Jr standing, and enrollment in Dance major; or grad standing; or permission of instructor.					
Investigation of dance composition with emphasis on the dynamics and phrasing of movement. Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 845. VSP Admis Cond course.					
6189 Field Experience	G	1 - 3	6193 Independent Study: MFA	G	1 - 5
Internship, practicum or professional development activity, including teaching experience, under a faculty mentor. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. VSP Admis Cond course.					
Independent projects undertaken by MFA students under supervision of faculty mentor. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 16 completions. This course is graded S/U. VSP Admis Cond course.					
6194 Graduate Group Studies	G	1 - 3	6194 Graduate Group Studies	G	1 - 3
Group studies in dance. Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.					
6200 Choreography Workshop					
Workshop providing a platform for on-going choreographic projects, includes faculty and peer observation and critique. Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. VSP Admis Cond course.					
6201 Phrase Development	G	2 - 3	Investigation of dance composition with emphasis on the dynamics and phrasing of movement.		
Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 845. VSP Admis Cond course.					
6202 Music and Choreography	G	2 - 3	Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 846. VSP Admis Cond course.		
Investigation of dance composition with emphasis on structure and the music/dance relationship.					

6203 Group Forms	G	2 - 3	7401 Aesthetics and Criticism	G	4
Composition of group dances, and exploration of devices and craft unique to group choreography.			Critical and aesthetic analysis of dance through the practices of discussion, viewing, reading and writing.		
Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 749. VSP Admis Cond course.			Prereq: Grad standing or permission of instructor. Not open to students with credit for 753. VSP Admis Cond course.		
6204 Choreographic Process	G	2 - 3	7402 Dance in Times of Turbulence	G	4
Investigation of dance composition with emphasis on the choreographic process and group interaction.			Developments in Western theatrical dance from the late eighteenth century until the end of World War I.		
Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 847. VSP Admis Cond course.			Prereq: Grad standing or permission of instructor. Not open to students with credit for 757. VSP Admis Cond course.		
6205 Dance Theater	G	2 - 3	7403 Postmodernism in Dance I	G	4
Study of contemporary and historical dance theater choreography and performance practices as focus for student creative process.			Inquiry into aesthetic points of view, beliefs and assumptions inherent in dance practices and dance criticism from the 1960s through the mid-1980s.		
Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 748. VSP Admis Cond course.			Prereq: Grad standing or permission of instructor. Not open to students with credit for 759. VSP Admis Cond course.		
6290 Composition: Special Topics	G	1 - 3	7404 Postmodernism in Dance II	G	4
Special topics in dance composition.			Inquiry into aesthetic points of view, beliefs and assumptions inherent in dance practices and dance criticism from the mid-1980s to the present.		
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. VSP Admis Cond course.			Prereq: Grad standing or permission of instructor. Not open to students with credit for 759, 801.31. VSP Admis Cond course.		
6301 Analysis I	G	2 - 3	7405 Black Continuum in American Dance	G	2 - 4
Foundational course in Laban Movement Analysis (LMA), including studio-based studies, practice in observation, and topical readings and viewings.			Examination of dance genres, performance venues, and cultural workers that have shaped the Black continuum in American dance from the antebellum era to the present.		
Prereq: Grad standing in Dance. Not open to students with credit for 707. VSP Admis Cond course.			Prereq: Grad standing or permission of instructor. Not open to students with credit for 801.30. VSP Admis Cond course.		
6700 Repertory	G	1 - 3	7406 Theories of the Body	G	4
Studio-based experience in learning a new or existing dance work, may include informal performance.			Cross-disciplinary seminar in critical theory considering the body as flesh and bone and as a discursive entity.		
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. VSP Admis Cond course.			Prereq: Grad standing or permission of instructor. Not open to students with credit for 860. VSP Admis Cond course.		
6701 Performance	G	1 - 3	7408 Bodies on the Line	G	4
Rehearsal process and performance of a dance work choreographed by resident or visiting artists.			Interdisciplinary analysis of the body as a site of political investment and contestation in stage-based performances and everyday life.		
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.			Prereq: Grad standing or permission of instructor. Not open to students with credit for 760.03, 860.01. VSP Admis Cond course.		
6702 Performance Techniques	G	2 - 3	7409 Ethnographies of Dance and Performance	G	4
Interdisciplinary seminar exploring the creative and practical aspects of performance through exercises, readings and discussion.			Reading and conducting ethnographic research in areas of dance and performance, including feminist and post-colonial approaches to Western, non-Western, and globalized forms.		
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. VSP Admis Cond course.			Prereq: Grad standing or permission of instructor. VSP Admis Cond course.		
6790 Repertory/Performance: Special Topics	G	1 - 3	7490 History/Theory/Literature: Special Topics	G	1 - 4
Special topics in repertory and performance.			Special topics in history/theory/literature of dance.		
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.			Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions. VSP Admis Cond course.		
6801 Foundations in Dance Research	G	3	7500 Directed Teaching MFA or PhD	G	1 - 3
Introductory graduate seminar presenting department and university resources for dance research, academic writing skills, and technological literacy.			Experience designed to aid prospective teachers of dance in their development of essential teaching skills in a variety of settings with a faculty mentor.		
Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 801.51, 801.91. VSP Admis Cond course.			Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.		
6802 Foundations in Dance Pedagogy	G	3	7600 MFA Project: Production	G	1 - 2
Introductory graduate seminar including practical and theoretical approaches to studio- and lecture-based class pedagogy and topics in higher education.			Seminar focusing on production elements relevant to MFA projects during semester of presentation.		
Prereq: Grad standing in Dance, or permission of instructor. Not open to students with credit for 801.81, 894.			Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 893.04. Repeatable to a maximum of 20 cr hrs or 20 completions.		
6804 Interdisciplinary Workshop	G	1 - 3	7900 Theories and Methods	G	4
Advanced problems in dance and related areas; nature of workshop based on selected topics.			Theories and methods of research in dance studies; PhD core course.		
Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 880. VSP Admis Cond course.		
6990 Research: Special Topics	G	1 - 4	7901 History/Theory/Literature Choreography	G	4
Special topics in dance research.			Inquiry into selected topics within the history, theory and literature of choreography, PhD core course.		
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. VSP Admis Cond course.			Prereq: Grad standing in Dance or permission of instructor. VSP Admis Cond course.		
7303 Directing from Score	G	3	7902 History/Theory/Literature Analysis of Movement	G	4
Teaching and coaching of a dance learned from a Labanotated score.			Inquiry into selected topics within the history, theory and literature of the analysis of movement, PhD core course.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. VSP Admis Cond course.			Prereq: Grad standing in Dance or permission of instructor. VSP Admis Cond course.		
7304 Dance Dynamics	G	3	7998 MFA Comprehensive Examination	G	1 - 2
Study of dynamics and phrasing through Effort theory from Laban Movement Analysis.			Examination questions written in partial fulfillment of the MFA degree.		
Prereq: Grad standing in Dance, or permission of instructor. Not open to students with credit for 605. VSP Admis Cond course.			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U. VSP Admis Cond course.		

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7999 MFA Project G 1 - 10

Activities leading to the completion of the MFA creative project, in partial fulfillment of the MFA degree.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U. VSP Admis Cond course.

8193 PhD Independent Study G 1 - 5

Independent projects undertaken by PhD students under supervision of faculty mentor.

Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 16 completions.

This course is graded S/U. VSP Admis Cond course.

8200 PhD Qualifying Examination G 1 - 2

Writing of qualifying examination question to determine capacity to proceed through the doctoral degree in Dance Studies.

Prereq: Doctoral standing in Dance Studies.

8800 PhD Pre-Candidacy Independent Readings G 1 - 8

Selection and reading of appropriate texts toward designing candidacy examination areas.

Prereq: Doctoral standing in Dance Studies. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8990 Research: Special Topics G 1 - 4

Special topics in dance research.

Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions. VSP Admis Cond course.

8998 Candidacy Exams G 3 - 18

Examination questions written in partial fulfillment of the PhD degree.

Prereq: Permission of instructor. This course is graded S/U. VSP Admis Cond course.

8999 Dissertation G 1 - 10

Culminating written document completed in fulfillment of the PhD degree.

Prereq: Permission of instructor. Repeatable. This course is graded S/U. VSP Admis Cond course.

Dental Hygiene

1100 Dental Hygiene Survey U 1

Introduction to the university and the dental hygiene program. University policies, procedures and resources; students' rights and responsibilities; academic requirements; career and professional issues.

Prereq: Admission to pre-DHY, or permission of instructor.

2110 Oral Anatomy, Tooth Morphology and Occlusion U 4

Instruction in the basics of dental morphology and oral anatomy to aid in providing dental hygiene therapy.

Prereq: Admission to DHY major.

2130 Oral Radiography U 2

Introduction to physics, biology and technical components involved in exposing, processing and interpreting dental radiographs.

Prereq: Admission to DHY major.

2140 Oral Histology and Embryology U 2

A study of the microscopic anatomy of the teeth and surrounding structures; the development of the teeth, oral cavity, and face.

Prereq: Admission to Dental Hygiene major.

2150 Periodontology U 2

Introduction to principles of periodontology and periodontal medicine. Anatomy, physiology, histology and functions of dental tissue are discussed in relationship to health and disease of the periodontium.

Prereq: Admission to DHY major.

2170 Dental Materials Laboratory U 2

Instruction in the composition, chemical and physical properties, proper manipulation and use of materials used in dentistry.

Prereq: 2110.

2220 The Profession of Dental Hygiene U 1

Introduction to the history, professional, legal, and ethical aspects of dental hygiene.

Prereq: Admission to DHY major.

2240 Oral Health and Disease Prevention U 2

Introduction and knowledge of appropriate use of materials and techniques in patient education and dental hygiene practice to prevent, arrest, and control dental diseases.

Prereq: Admission to DHY major.

2300 Dental Hygiene Pre-Clinic U 4

Introduction to procedures and techniques necessary to function as a co-therapist in the dental clinical setting.

Prereq: Admission to DHY major.

2310 Dental Hygiene Clinic I U 3

Clinical application of the principles and technical procedures of patient management in the practice of dental hygiene.

Prereq: A grade of C- or above in 2110, 2130, 2150, and 2300, and recommendation of

2400 Scientific Inquiry U 1

Introduction to the process of scientific inquiry, research methodology, and basic statistical concepts. Research methodology from a dental perspective will be introduced for community dentistry and research poster projects.

Prereq: Admission to DHY major. Not open to students with credit for 3410.

3120 General Pathology, Pharmacology and Medicine for Dental Hygiene U 3

Instruction in common medical conditions including implications for dental hygiene practice and pharmacologic management.

Prereq: 2110.

3130 Oral Pathology U 2

Introduction to current concepts regarding the pathogenesis and clinical features of oral diseases.

Prereq: 3120.

3140 Pain and Anxiety Management U 2

Instruction in commonly used dental office techniques for managing patient anxiety and pain primarily using nitrous oxide/oxygen inhalation and local anesthesia.

Prereq: 2110 and 2300.

3150 Periodontal Therapy U 2

Instruction in initial and supportive therapy for periodontally compromised patients in dental practice settings, including discussion of adjunctive therapies and periodontal surgeries.

Prereq: 2110, 2150, and 2300.

3170 Dental Materials U 1

Instruction in the biologic, chemical and physical characteristics and properties of various biomaterials encountered in the practice of dental hygiene and dentistry.

Prereq: 2110.

3210 Community Oral Health U 2

Introduction to the knowledge, skills and behaviors necessary to promote oral health through organized community efforts.

Prereq: Admission to DHY major.

3230 Care for Patients with Special Needs U 2

Instruction to identify patients with special needs and development of skills and techniques to effectively treat this population.

Prereq: 2240 and 2300.

3320 Dental Hygiene Clinic II U 3 - 4

Ongoing clinical experience with emphasis on development of fundamental clinical skills.

Prereq: A grade of C- or above in 2310, 3120, 3140, and 3150, and recommendation of

3330 Dental Hygiene Clinic III U 4

A continuation of clinical patient care with emphasis on time management. Patient care parameters are expanded.

Prereq: A grade of C- or above in 3320, and recommendation of faculty.

3345 Dental Hygiene Special Needs Clinic U 1

Clinical application of the philosophy and techniques of dental hygiene therapy with emphasis on recognizing special needs and providing appropriate treatment options for patients with special needs.

Prereq: 3210.2. Repeatable to a maximum of 2 cr hrs.

3400 Research Application and Analysis U 3

Continuation of 2400. Application of scientific inquiry, research methodology, basic statistical concepts, and interpretation of data analyses. Presentations of community dentistry and research poster projects will be completed.

Prereq: 2400. Not open to students with credit for 3410.

3410 Research Methods and Interpretation U 4

Introduction to the process of scientific inquiry, research methodology, basic statistical concepts and interpretation of data analyses. Research methodology from a dental perspective will be introduced.

Prereq: Admission to DHY or BDCP major.

4193 Individual Studies in Dental Hygiene U 1 - 3

Advanced studies in any relevant area of dental hygiene.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4194 Group Studies in Dental Hygiene U 1 - 3

Group studies in selected topics in dental hygiene.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4210 Integrated Dental Hygiene Science I U 1

Integration and review of all areas of dental hygiene related to dental hygiene practice.

Application of analytical skills to case analysis.

Prereq: Sr standing in DentHyg. This course is graded S/U.

4220 Integrated Dental Hygiene Science II U 1

Continuation of 4210.

Prereq: 4210. This course is graded S/U.

4240	Practice Management	U	2			
	Introduction to the economic and employment issues which impact dental hygiene practices and management skills to foster current standards of dental hygiene care.					
	Prereq: Sr standing in DHY.					
4260	Dental Hygiene Care for Persons with Intellectual and Developmental Disabilities	U	1 - 3			
	Instruction in preparing dental professionals in the care of persons with special needs, preparing them for working in a variety of settings and on multidisciplinary teams.					
	Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs or 3 completions.					
4340	Dental Hygiene Clinic IV	U	4			
	A final clinical experience incorporating all previously acquired knowledge, techniques, procedures, and evaluation of results of dental hygiene therapy with emphasis on time management.					
	Prereq: A grade of C- or above in 3330, and recommendation of faculty.					
4420	Current Concepts in Dental Hygiene	U	2			
	Instruction in the significant aspects of dental hygiene practice within the context of dentistry and health care.					
	Prereq: 3410.					
4430	Dental Hygiene Practicum	U	1 - 4			
	Supervised practice outside the traditional clinic in a setting similar to one in which the dental hygiene student may practice, teach, or conduct research upon graduation.					
	Prereq: Sr standing in DHY or BDCP major. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is graded S/U.					
4530	Oral Health Behavior Management	U	2			
	Instruction in advanced skills for dental hygienists to help patients achieve good oral health, with emphasis on clinical application and evaluation.					
	Prereq: Admission to BDCP major.					
4620	Dental Hygiene Education I	U	3			
	Introduction to teaching in the dental hygiene setting. This course is designed to provide the future dental hygiene educator with insight into the fundamental principles of learning and teaching. This course highlights the behaviors, attitudes, and interactions of effective and inspiring teachers.					
	Prereq: Admission to UDHY major.					
4630	Dental Hygiene Education II	U	3			
	Continuation of 4620. This course is designed to provide the future dental hygiene educator with an appreciation of foundations of teaching and learning, essential teaching skills, importance of communication in teaching, instructional planning, instructional strategies/activities, assessment fundamentals, methods of assessment, teaching in higher education, and personal philosophy of teaching.					
	Prereq: 4620.					
4725	Expanded Functions for the Dental Auxiliary Pre-clinic	U	4			
	Introduction to theory and technical procedures for the expanded functions dental auxiliary in four-handed dentistry and restoring cavity preparations with amalgam alloy and filled resins.					
	Prereq: A grade of C- or above in 3320.					
4740	Expanded Functions for the Dental Auxiliary Clinic I	U	1 - 3			
	Clinical application of expanded function duties permitted by law.					
	Prereq: A grade of C- or above in 4725.					
4750	Expanded Functions for the Dental Auxiliary Clinic II	U	1			
	Clinical application of expanded function duties permitted by law.					
	Prereq: A grade of C- or above in 4740.					
4760	Expanded Functions for the Dental Auxiliary Seminar	U	1			
	Instruction in current expanded functions, practice management techniques, and current law in Ohio including practical experiences in preparation for Ohio Expanded Functions Qualifying Examination.					
	Prereq: A grade of C- or above in 4740.					
6000	Educational Policy and Management in Dental Hygiene	G	3			
	Designed to study the concept of policy as it relates to dental hygiene educational institutions and their governance and practices while providing knowledge and skills in basic management and administration.					
	Prereq: Admission to Master's in Dental Hygiene, or permission of instructor.					
6100	Dental Hygiene Educational Theory and Methods	G	3			
	The study of theory, principles and research related to the faculty role in active teaching and learning, critical thinking, and development of course alignment in dental hygiene education.					
	Prereq: Admission to Master's in Dental Hygiene, or permission of instructor.					
6200	Contemporary Issues in Dental Hygiene	G	3			
	Examines current issues which affect the overall dental profession with a strong focus on dental hygiene issues and the delivery of dental health care. It explores current and innovative strategies to make changes in dental hygiene to improve oral and overall health care.					
	Prereq: Admission to Master's in Dental Hygiene, or permission of instructor.					
6400	Introduction to Dental Research Designs	G	3			
	Designed to present conception and technical problems in the development and implementation of clinical, behavioral and basic science research projects related to dentistry.					
	Prereq: Admission to Master's in Dental Hygiene, or permission of instructor.					
6450	Statistical Analysis and its Application to Dental Hygiene	G	3			
	Designed to provide a conceptual foundation of statistics related to basic, clinical and behavioral dental science.					
	Prereq: 6400, and admission to Master's in Dental Hygiene.					
7100	Instructional Strategies	G	3			
	Explores modern educational methodology and course design in the teaching of dental hygiene students including technological advances in online and traditional teaching.					
	Prereq: 6100, or permission of instructor.					
7191	Dental Hygiene Internship	G	1 - 6			
	Supervised practical experience in the day to day operation of a dental hygiene program.					
	Prereq: 6100, 7100, and 7200 for a teaching internship; or 6000 and 7300 for an administrative internship; and admission to the MDH program, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.					
7193	Individual Studies in Dental Hygiene	G	1 - 6			
	Provides an opportunity for students to pursue individual studies in dental hygiene topics not otherwise offered.					
	Prereq: Admission to MDH program, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.					
7200	Clinical/Laboratory Instruction and Administration	G	3			
	Designed to study the theory and practice of laboratory, pre-clinical, and clinical dental hygiene instruction with an emphasis on psychomotor skill development, student mentoring, and evaluation.					
	Prereq: Admission to MDH program, or permission of instructor.					
7300	Leadership and Administration in Dental Hygiene	G	3			
	Designed to study leadership theories and program administration unique to dental hygiene educational programs including accreditation, human resources, faculty evaluation, budgeting, administration and outcomes assessment. Introduces the administrative structure and duties required to become a faculty member or program director and focuses on leadership in the profession.					
	Prereq: Admission to Master's in Dental Hygiene, or permission of instructor.					
7999	Research: Thesis	G	1 - 6			
	Provides graduate students with the opportunity to develop and conduct basic and applied Dental Hygiene research required for the completion of a master's thesis.					
	Prereq: Admission to MDH program, and permission of thesis advisor. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.					
	Dentistry					
6200	Molecular and Cellular Biochemistry	D	5			
	Basic principles of biochemistry, molecular and cellular biology with special emphasis on biochemical processes important in dentistry.					
	Prereq: Not open to students with credit for 606 and 607.					
6262	Communication and Ethics in Dentistry	D	2			
	Communication basics with an emphasis on communication with patients. Also includes an introduction to cultural competence and ethics in dentistry.					
6400	Microbiology and Immunology	D	4			
	Major components of the human immune system, and the immune response to medically important pathogens including bacteria, viruses, fungi and parasites.					
6415	Clinical Evaluative Sciences I	D	1			
	Evidence Based Dentistry.					
	Repeatable to a maximum of 2 cr hrs.					
6416	Introduction to Clinical Dentistry I	D	2			
	Introduction to prevention of oral disease, oral examination and modeling, patient evaluation, and use of the dental operatory. May include observation or assistance with clinical patient care, simulations, and laboratory exercises.					
	Prereq: Not open to students with credit for 415.02, 416, and 427. This course is graded S/U.					
6417	Oral Anatomy	D	3			
	Dental anatomy and anatomy of the head and neck.					
6423	Clinical Evaluative Sciences II	D	1			
	Evaluative sciences as they relate to the practice of dentistry including measurement and description of data and research study design.					
6427	Introduction to Clinical Dentistry II	D	2			
	Introduction to periodontal instrumentation, charting, ultrasonic scaling and recall. Topics also include: Rubber dam, coronal polishing and composite typodont exercise. This course is graded S/U.					
6432	Fixed Restorative Dentistry I	D	3			
	Single tooth posterior crown preparations and provisional restorations for complete veneer crowns, metal-ceramic crowns and fixed partial dentures. Includes a laboratory component.					

120 Dentistry

6434 Fixed Restorative Dentistry II	D	2	6533 Occlusion	D	3
Fabrication of single unit cast alloy restorations and provisional restorations for complete veneer crowns, metal-ceramic crowns and fixed partial dentures. Includes a laboratory component.			This course covers the impact of tooth form on function. Students will learn how to model a patient's dentition in the laboratory and appropriately relate it to the TMJ. This course will provide students with an understanding of the dynamics of mandibular movements, articulator design, occlusal schemes, anatomy of teeth.		
6435 Fixed I	D	2	6534 Operative Dentistry I	D	3
Tooth preparations for single unit fixed crowns			Introduction to Operative Dentistry focusing on basic posterior operative preparations. Includes a laboratory component.		
6435.01 Fixed I Lecture	D	1	6534.01 Operative Dentistry IV	D	1
This course provides information regarding how to prepare ivorine teeth (molars and premolars) for a complete veneer crown cast gold restoration. Repeatable to a maximum of 3 cr hrs.			Diagnosis and treatment planning of intra-coronal restorations and facial veneers including principles of tooth preparation, fabrication of a provisional restoration and cementation of the final restoration. Additional topics include: CAD/CAM for dental restorations and treatment planning for diastemas. Repeatable to a maximum of 3 cr hrs.		
6435.02 Fixed I Laboratory	D	1	6534.02 Operative Dentistry IV Laboratory	D	1
This course provides experience in preparing ivorine teeth (molars and premolars) for a complete veneer crown cast gold restoration.			This laboratory course provides students with skills related to providing intra-coronal restorations and facial veneers. Laboratory exercises include tooth preparation, fabrication of a provisional and final cementation of the permanent restoration. Repeatable to a maximum of 3 cr hrs.		
6436 Fixed Restorative Dentistry II	D	2	6535 Fixed Restorative Dentistry III	D	4
Anterior single unit fixed restorations. Repeatable to a maximum of 6 cr hrs.			Fabrication of direct and indirect single-unit and fixed partial interim prosthesis and preparation of teeth for anterior metal and all-ceramic restorations. Includes a laboratory component.		
6436.01 Fixed Dentistry II Lecture	D	1	6536 Operative Dentistry II	D	3
Students will learn to restore anterior teeth with crowns, applying scientific basis on principals of tooth preparations, provisional restorations, and material selections. The principals of esthetics will be introduced and applied in provisional restorations.			Composite and large amalgam preparation and restoration. Includes a laboratory component.		
6436.02 Fixed Restorative Dentistry II Laboratory	D	1	6537 Fixed Restorative Dentistry V	D	1
Students will learn to restore anterior teeth with crowns, applying scientific basis on principals of tooth preparations, provisional restorations, and material selections. This laboratory course is taught in conjunction with 6436.01.			Restorative treatment of the endodontically treated tooth and Fixed Prosthodontics competency exam. Includes a laboratory component.		
6437.01 Fixed Restorative Dentistry III	D	1	6538 Operative Dentistry III	D	2
Students will learn to restore anterior partial edentulism with fixed dental prosthesis. Topics include: application of scientific basis to indications and contraindications, principals of tooth preparations, provisional restorations, and material selections and esthetics. Repeatable to a maximum of 6 cr hrs.			Indirect composite restorations and Operative competency exam. Includes a laboratory component.		
6437.02 Fixed Restorative Dentistry III Laboratory	D	1	6538.01 Operative Dentistry III Lecture	D	1
Students will learn to restore anterior partial edentulism with fixed dental prosthesis. Topics include: application of scientific basis to indications and contraindications, principals of tooth preparations, provisional restorations, and material selections and esthetics. The emphasis is on associated laboratory procedures. Repeatable to a maximum of 3 cr hrs.			Students will review principals of composite preparation and restoration, principals of amalgam preparation and restoration, bases and liners, and complex amalgam preparations and restorations. Dentistry 6538.01 will also include foundation restorations and digital Restorative Dentistry, including digital impressions, CAD/CAM dentistry, inlay and onlay preparations and restorations.		
6438.01 Fixed IV Lecture	D	1	6538.02 Operative Dentistry III Laboratory	D	1
Clinical and theoretical considerations of tooth preparation design for fixed partial dentures and metal ceramics, the importance of diagnostic waxing, fabrication of direct provisional restorations, theoretical considerations in framework design, and the properties of materials used in the fabrication of metal-ceramic restorations. Repeatable to a maximum of 3 cr hrs.			Dentistry 6538.02 is a 1 credit hour laboratory course taught in conjunction with Dent 653.01. This course administers the Dent II pre-clinical operative competency exam. The exam consists of eight operative dentistry procedures. The procedures are a combination of amalgam preparations ideal and complex, composite preparations, amalgam restorations, and composite restorations. .		
6438.02 Fixed IV Laboratory	D	1	6539 Fixed Restorative Dentistry IV	D	2
Clinical and theoretical considerations of tooth preparation design for fixed partial dentures and metal ceramics laboratory experiences. Repeatable to a maximum of 3 cr hrs.			Considerations in the provision and fabrication of esthetic crowns. Includes a laboratory component.		
6482 Removable Complete Prosthodontics I	D	2	6540.01 Operative Dentistry I	D	2
Overview of complete removable prosthodontics for the general dentist. Includes a laboratory component.			Introduction to the principles of conservative tooth preparations, characteristics of dental amalgam and its use in the restoration of posterior teeth and class V lesions . Students will learn how to prepare different types of cavities. The course also include information related to the caries process, techniques to control lesions, and restorative dentistry materials. Repeatable to a maximum of 6 cr hrs.		
6489 Removable Partial Prosthodontics I	D	2	6540.02 Operative Dentistry I Laboratory	D	1
Introduction to removable partial prosthodontics. Survey edentulous casts and design removable partial dentures; prepare mouth for insertion. Includes a laboratory component.			Introduction to principles of conservative tooth preparations, acquiring the skills to prepare different types of cavities		
6500 Histology, Development and Cell Biology of Oral Tissues	D	3	6541 Operative II	D	2
Light microscopic and ultrastructural organization of adult and developing orofacial tissues including their underlying cellular and molecular basis.			Students will learn to perform composite and amalgam restorations.		
6505 Oral Surgery I	D	1	6541.01 Operative II Lecture	D	1
Introduction to principles of patient evaluation and management for common dento-alveolar surgical procedures.			This course provides students knowledge in the use of composite, resin-modified glass ionomer, and amalgam to restore teeth. Repeatable to a maximum of 3 cr hrs.		
6516 Oral Microbiology and Cariology	D	1½	6541.02 Operative II Laboratory	D	1
Epidemiology of dental caries and periodontitis. Oral microbiology of the disease process and relationship to systemic disease. Topics also include: Oral infections, sterilization and asepsis, and caries assessment, diagnosis, and fluoride therapy.			This course provides students experience in the use of composite, resin-modified glass ionomer, and amalgam to restore teeth. Repeatable to a maximum of 3 cr hrs.		
6530 Post and Core Restoration of Endodontically Treated Teeth	D	½	6542 Operative Dentistry III	D	2
Restoration of endodontically treated teeth. Repeatable to a maximum of 1.5 cr hrs.			Students will review principals of amalgam preparation and restoration, bases and liners, and complex amalgam preparations and restorations. Dentistry 6542 will include foundation restorations. Students will also be introduced to Class III composite and amalgam preparations and restorations, Class IV composite preparations and restoration technique. Repeatable to a maximum of 6 cr hrs.		
6532 Occlusion and TMD	D	2			
Impact of tooth form on function. Enhancing the diagnosis and treatment of patients with advanced restorative needs by duplicating the patient's dentition in the dental laboratory and correctly relating that to the TMJ.					

6542.01 Operative Dentistry III Lecture	D 1	6625 Practice Management I	D 1
Class III composite preparations and restorations, Class IV composite preparations and restoration technique, and extensive amalgam preparations and restorations. 6542.01 is taught in conjunction with 6542.02 and is the didactic portion of the course.			Basic concepts in personal and business finance and business management. Topics include future trends in dentistry, economics, investments, and concepts in risk management and regulatory agency oversight.
6542.02 Operative Dentistry III Laboratory	D 1	6626 Practice Management II	D 1
Class III composite preparations and restorations, Class IV composite preparations and restoration technique, and extensive amalgam preparations and restorations. 6542.02 is taught in conjunction with 6542.01 and is the laboratory portion of the course.			Career opportunities within Dentistry. Evaluation of Dental practice types relative to business structure, organization and productivity analysis.
6543 Oral Radiology II	D 2	6627 Practice Management III	D 1
Advanced imaging techniques including panoramic imaging and CBCT imaging. Repeatable to a maximum of 6 cr hrs.			Topics include legal issues affecting Dental practice, peer review process, liability insurance, marketing, associations, and evaluating and purchasing a Dental practice.
6544 Internal Medicine for Dentistry	D 2	6629 Dental Materials	D 1
Review of common medical conditions and implications for dental treatment. Attention is placed on major organ pathophysiology, clinical medicine & pharmacologic management. Emergency medicine is also discussed.			Evaluation and effective use of dental materials by the general dentist. Topics also include requirements of ideal materials and procedures for working with dental laboratories. Repeatable to a maximum of 2 cr hrs.
6545 Oral Radiology	D 1	6630 Diagnosis and Treatment Planning for Patients with Complex Restorative Needs	D 2
Introduction of basic radiology concepts to DDS program students. Course topics: formation, x-ray interactions, intraoral anatomy, image exposure and technique, effects of radiation including radiation safety and protection.			Introduction to procedures for collecting and evaluating information, particularly as related to occlusion, that enable proper diagnosis and treatment of partially edentulous patients with complex restorative needs. Includes a laboratory component.
6546.01 Operative Dentistry V lecture	D 1	6631 Restorative and Prosthetic Dentistry Clinical Lecture Series I	D ½
Principals of composite and amalgam preparation and restoration, bases and liners, and complex amalgam preparations and restorations, foundation restorations, fabricating veneer temporaries, uses of lasers in restorative dentistry including troughing for impressions, and other advanced restorative procedures. This course is taken concurrently with the laboratory course.			Advanced topics related to clinical guidelines, prevention of recurrent caries under fixed restorations, fluid control, soft tissue management, tooth isolation and pulpal protection.
Repeatable to a maximum of 3 cr hrs.			
6546.02 Operative Dentistry V Laboratory	D 1	6632 Restorative and Prosthetic Dentistry Clinical Lecture Series II	D 1
The primary focus of Dent 6546.02 is the Dent II pre-clinical operative competency exam. The exam consists of eight operative dentistry procedures. The procedures are a combination of amalgam preparations ideal and complex, composite preparations, amalgam restorations, and composite restorations. Dentistry 6546.02 is taken concurrently with Dentistry 6546.01.			Advanced topics related to treatment planning, dental materials, articulators and impressions.
Repeatable to a maximum of 3 cr hrs.			
6551 Pediatric Dentistry II	D ½	6633 Restorative and Prosthetic Dentistry Clinical Lecture Series III	D 1
Introduction to basic restorative dentistry for the primary and transitional dentition.			Advanced topics related to esthetics, casting delivery, removable partial denture attachments, classification of endodontics, treating difficult denture patients and maxillofacial prostheses.
6564 Periodontology I	D 3	6638 Implant Dentistry I	D 1½
Introduction to periodontal disease and diagnosis.			Introduction to implant dentistry including discussion of treatment planning dental implants.
6565 Periodontology II	D 4	6639 Implant Dentistry II	D 1
Periodontal disease prevention and therapy using an evidence-based patient management approach. Includes rationale for non-surgical and surgical therapy. Lab and clinic exercises in subgingival instrumentation.			Complex fundamentals in the planning and treatment of dental implants for the general dentist.
6567 Endodontics I	D 1½	6645 Oral Pathology I	D 2
Overview of basic endodontic treatment, from access to the obturation technique. General terminology, basic instrument description, rationale for treatment. Includes laboratory component.			Oral and maxillofacial pathologic conditions. Topics include dental and developmental anomalies, mucocutaneous and salivary gland disorders, odontogenic cysts and tumors and HIV infection.
6569 Endodontics II	D 1	6648 Oral Pathology II	D 3
Topics related to endodontic treatment including: diagnosis, emergency treatment, traumatic injuries, internal bleaching, vital pulp therapy, relationship to the periodontium, surgery, and treatment outcomes.			Oral and maxillofacial pathologic conditions. Topics include inflammatory and reactive conditions, epithelial and melanocytic pathology, Mesenchymal hard and soft tissue neoplasms, hematologic disorders and oral manifestations of systemic disease.
6571 Pharmacology I	D 3	6651 Pediatric Dentistry III	D 3
Introduction to the mechanism of action and side effects of pharmacologic agents.			Overview of Pediatric Dentistry for the general dentist. Content includes treatment of infants, children, adolescents and those patients with special medical needs.
Repeatable to a maximum of 9 cr hrs.			
6579 Local Anesthesia	D 1	6655 General Pathology	D 3
Techniques of intraoral local anesthetic administration with emphasis on predicting and preventing complications. Includes discussion of related basic science principles.			Overview of human disease and the mechanisms associated with genetic, acquired, reactive and neoplastic conditions. Disease epidemiology, pathogenesis, diagnosis, treatment, prognosis and prevention are discussed.
6587 Removable Partial Prosthodontics II	D 1	6656 Orthodontics I	D 4
Treatment of patients with a complete maxillary denture and a mandibular distal extension removable partial denture. Includes a laboratory component.			Introduction to orthodontic diagnosis and treatment planning for general dentists.
6600 Human Physiology	D 5	6658 Clinical Orthodontics I	D ½
Human physiology course for dental students. Overview of physiological systems including nerve, muscle, cardiovascular, respiration, endocrine and renal. Oral physiology topics including kinesthesia, mastication, swallowing and pain.			This course establishes the skills required for the clinical application of the principles of facial and dental growth and development, and orthodontic diagnosis. Students will develop the skills that they will need to address the orthodontic needs of their patients and to recognize when orthodontic treatment can add to the results of their restorative and periodontal treatment.
Repeatable to a maximum of 1.5 cr hrs.			
6612 Pharmacology II	D 2	6659 Orthodontics II	D 1
Applied pharmacology including the safe prescribing of drugs used in general dental practice. Includes principles of pharmacology and interaction concerns.			Advanced topics in orthodontics for the general dentist including: growth and development and treatment evaluation.
6623 Geriatrics and Patients with Special Health Needs	D 2	6684 Removable Complete Prosthodontics II	D 1
Concerns associated with the provision of oral health care to Geriatric and Special Needs patients. Topics include: patient mobility, psychosocial and socioeconomic issues, medical considerations, and communication.			Finishing and polishing a complete denture, laboratory remount, occlusal equilibration, denture repair and reline. Includes a laboratory component.
		6690 Introduction to Clinical Dentistry III	D 2
		Introduction to interim partial dentures and border molding, dental photography, carries risk assessment, removal of large restorations and head and neck examination. Includes observation or assistance with clinical patient care.	
		This course is graded S/U.	

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6691	Introduction to Clinical Dentistry IV	D	2	7669	Clinical Endodontics I	D	1
	Overview of clinic patient records. Exercise in local anesthesia administration, use of posterior rubber dam and dental charting. Also includes observation or assistance with clinical patient care.				Clinical experience in performing root canal treatment on uncomplicated permanent teeth. Also exposure to treatment modalities necessary in more complicated Endodontic cases.		
	This course is graded S/U.				Prereq: Not open to students with credit for 668. This course is graded S/U.		
6693	Individual Studies in Dentistry I	D	½ - 12	7676	Clinical Periodontology	D	1
	Individual studies in any of the recognized fields of dentistry.				Students participate in treatment of patients with periodontal needs.		
	Repeatable to a maximum of 36 cr hrs or 6 completions. This course is graded S/U.						
6704	Oral Surgery II	D	1	7693	Individual Studies in Dentistry II	D	½ - 12
	Overview of advanced oral surgery practice.				Individual studies in any of the recognized fields of dentistry.		
	Repeatable to a maximum of 36 cr hrs or 6 completions.						
6744	Oral Pathology III	D	1	7701	Clinical Oral Surgery I	D	4
	Case-based study of oral pathologic conditions including documentation, development of the differential diagnosis, strategies to establish the diagnosis and patient management.				Introductory clinical experience to the primary principles of patient evaluation and management for common dento-alveolar surgical procedures.		
	Prereq: Permission of instructor. Cross-listed in NeuroSc 7200.01.				Prereq: Not open to students with credit for 701. This course is graded S/U.		
7012.01	Neuroscience Laboratory	G D	1	7702	Clinical Oral Surgery II	D	½
	Laboratory component of Dentistry 7012 in which students will learn anatomy of the human brain.				Patient evaluation and management for common dento-alveolar surgical procedures. Includes an experience in hospital dentistry.		
	Prereq: Permission of instructor. Cross-listed in NeuroSc 7200.01.				Prereq: Not open to students with credit for 704. This course is graded S/U.		
7012.02	Experimental Neuroscience Lab	G D	1	7708	Clinical Pediatric Dentistry II	D	1
	Laboratory component of Dentistry 7012 in which students will learn the anatomy of the rodent brain using experimental techniques.				Experience treating child and adolescent patients in a clinic environment. Also includes experience in a hospital setting and exposure to complicated Pediatric Dentistry and Special Needs cases. Includes competency examinations.		
	Prereq: Permission of instructor. Cross-listed in NeuroSc 7200.02.				Prereq: Not open to students with credit for 708.03. This course is graded S/U.		
7012.03	Foundations of Neuroscience II	G D	6	7716.01	Primary Care IV	D	3
	Discusses the organization of selected systems in the nervous system including motor, sensory, autonomic, and higher cognitive centers. Course will cover anatomical, functional, and behavioral concepts.				Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.		
	Prereq: Permission of instructor. Cross-listed in NeuroSc 7002.			7716.02	Primary Care IV	D	3
7400	Advanced Pediatric Dentistry	D	1		Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.		
	Advanced clinical experiences and background in Pediatric Dentistry for general practitioners. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			7718.01	Primary Care V	D	3
7500	Community Dentistry I	D	1½		Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.		
	General dental practice experience at external sites.			7718.02	Primary Care V	D	4
	Prereq: Not open to students with credit for 500, 501, 502, or 503.				Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.		
7501	Community Dentistry II	D	2		Prereq: Not open to students with credit for 716, 717, 718, or 719. This course is progress		
	General dental practice experience at external sites.			7719.01	Primary Care VI	D	3
	Prereq: Not open to students with credit for 500, 501, 502, or 503.				Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.		
7502	Community Dentistry III	D	2	7719.02	Primary Care VI	D	4
	General dental practice experience at external sites.				Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.		
	Prereq: Not open to students with credit for 500, 501, 502, or 503.			7746	Clinical Oral Radiology Introductory	D	½
7522	Clinical Geriatrics	D	1		Introductory clinical experience in Oral Radiology. Includes selection, and evaluation of radiographs in addition to techniques for obtaining appropriate images.		
	Delivery of clinical dental care to elderly populations at nursing homes and geriatric clinics.			7747	Clinical Oral Radiology Intermediate	D	½
	Prereq: Not open to students with credit for 522.				Intermediate level clinical experience in Oral Radiology. Includes selection, and evaluation of radiographs in addition to techniques for obtaining appropriate images.		
7616	Primary Care I	D	1½		This course is graded S/U.		
	Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.			7769	Clinical Endodontics II	D	1
7617.01	Primary Care II	D	4		Clinical experience in performing root canal treatment on uncomplicated permanent teeth. Also exposure to treatment modalities necessary in more complicated Endodontic cases.		
	Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.			7776	Periodontology Clinical Competencies	D	1
7617.02	Primary Care II	D	4		Competency examinations related to Periodontology.		
	Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.				Repeatable to a maximum of 3 cr hrs.		
	Prereq: Not open to students with credit for 616, 617, 618, or 619. Repeatable to a maximum			7920	Oral Biology Seminar	G	½ - 2
7618.01	Primary Care III	D	4		Student presentations of recent research findings, both original and from the literature.		
	Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.				Repeatable to a maximum of 40 cr hrs or 20 completions.		
7618.02	Primary Care III	D	4	7993	Individual Studies in Advanced Dentistry	G	½ - 12
	Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.				Advanced individual studies in any of the recognized fields of dentistry.		
7652	Clinical Pediatric Dentistry I	D	1		Repeatable. This course is graded S/U.		
	Clinical experience treating child and adolescent patients.						
	Prereq: Not open to students with credit for 652.02. This course is graded S/U.						
7658	Clinical Orthodontics	D	1				
	Clinical application of the principals of orthodontic growth and development, and orthodontic treatment.						
	Prereq: Not open to students with credit for 658.						

8000.02 Orthodontics/Graduate Orthodontics Clinic	G	½ - 10	8002.03 Periodontics I Faculty Presentations	G	½ - 10
Broad exposure to advanced clinical principles and practices. Repeatable.			Discussion of clinical cases. Repeatable.		
8000.03 Periodontics	G	½ - 10	8002.05 Oral Pathology	G	½ - 10
Broad exposure to advanced clinical principles and practices. Repeatable.			Discussion of clinical cases. Repeatable. This course is graded S/U.		
8000.04 Prosthodontics/Graduate Prosthodontics Clinic	G	½ - 10	8002.06 Endodontics	G	½ - 10
Broad exposure to advanced clinical principles and practices. Repeatable.			Discussion of clinical cases. Repeatable.		
8000.05 Oral Pathology I Clinical Assisting	G	½ - 10	8002.07 Pediatric Dentistry I Contemporary Issues	G	½ - 10
Broad exposure to advanced clinical principles and practices. Repeatable. This course is graded S/U.			Discussion of clinical cases. Repeatable. This course is graded S/U.		
8000.06 Endodontics	G	½ - 10	8002.12 Orthodontics II Case Presentations	G	½ - 10
Broad exposure to advanced clinical principles and practices. Repeatable. This course is graded S/U.			Discussion of clinical cases. Repeatable. This course is graded S/U.		
8000.07 Pediatric Dentistry I Graduate Pediatric Dentistry Clinic	G	½ - 10	8002.13 Periodontics II Student Presentations	G	½ - 10
Broad exposure to advanced clinical principles and practices. Repeatable. This course is graded S/U.			Discussion of clinical cases. Repeatable.		
8000.15 Oral Pathology II Surgical Pathology	G	½ - 10	8002.17 Pediatric Dentistry II Introductory Orthodontics	G	½ - 10
Broad exposure to advanced clinical principles and practices. Repeatable. This course is graded S/U.			Discussion of clinical cases. Repeatable. This course is graded S/U.		
8000.17 Pediatric Dentistry II Medical Clinical Rotations	G	½ - 10	8002.22 Orthodontics III Craniofacial Anomalies	G	½ - 10
Broad exposure to advanced clinical principles and practices. Repeatable. This course is graded S/U.			Discussion of clinical cases. Repeatable. This course is graded S/U.		
8000.22 Orthodontics III Craniofacial Anomalies Clinic	G	½ - 10	8002.27 Pediatric Dentistry III Advanced Orthodontics	G	½ - 10
Broad exposure to advanced clinical principles and practices. Repeatable. This course is graded S/U.			Discussion of clinical cases. Repeatable. This course is graded S/U.		
8000.24 Prosthodontics III Maxillofacial Clinic	G	½ - 10	8002.32 Orthodontics IV Dental Facial Anomalies	G	½ - 10
Broad exposure to advanced clinical principles and practices. Repeatable. This course is graded S/U.			Discussion of clinical cases. Repeatable. This course is graded S/U.		
8000.27 Pediatric Dentistry III Anesthesia Rotation	G	½ - 10	8003 Research I	G	2
Broad exposure to advanced clinical principles and practices. Repeatable. This course is graded S/U.			Statistics and research design. Introduction to research ethics, human subject and animal research.		
8001.01 Anesthesia Literature Review	G	½	8004 Research II	G	1½
The course will explore recent advances and opinions in anesthesia and provide an understanding of key concepts of anesthesia and approaches to clinical management. The course will consist of a monthly topic and at least two recent peer reviewed articles that will be presented to the class for discussion. One member of the class will develop and present the lecture for each class. Repeatable to a maximum of 3.5 cr hrs.			Advanced topics related to research ethics, intellectual property, human subjects and animal research.		
8001.02 Orthodontics	G	½ - 10	8006 Dental Photography	G	1
Review of literature. Repeatable.			Dental Photography. Topics include: equipment, setup and lighting; portrait and intra-oral photography; photo management and presentation; copystand photography. This course is graded S/U.		
8001.03 Periodontics	G	½ - 10	8007 Legal Issues in Dentistry	G	1
Review of literature. Repeatable.			Legal issues in the acquisition and management of a dental practice including issues associated with delivery of dental services to consumers, malpractice claims against practitioners and impact of government regulation on the delivery of care.		
8001.04 Prosthodontics I Removable Prosthodontics	G	½ - 10	8008 Advanced Oral Embryology and Histology	G	½
Review of literature. Repeatable.			Development of the craniofacial region, odontogenesis, eruption and structure and function of the orofacial tissues.		
8001.05 Oral Pathology	G	½ - 10	8011 Advanced Oral and Maxillofacial Radiology	G	1½
Review of literature. Repeatable. This course is graded S/U.			The goals of this course are to engage residents in radiographic diagnosis through active, individual, and group learning.		
8001.14 Prosthodontics II Fixed Prosthodontics	G	½ - 10	8150 Orofacial Pain	G	1
Review of literature. Repeatable.			Overview of musculoskeletal, neuropathic and neurovascular facial pain to enable accurate differential diagnosis of non-odontogenic facial pain. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.		
8001.24 Prosthodontics III Dental Implants	G	½ - 10	8151 Sedation	G	1
Review of literature. Repeatable.			Covers the indications, complications, pharmacology and techniques of IV sedation for dentistry.		
8002.01 Anesthesia Grand Rounds	G	1	8152 Physical Diagnosis	G	1
Discussion of clinical cases. The course is designed to teach advanced principles of hospital anesthesia to dental anesthesia residents and provide monthly morbidity and mortality case reports. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			Reviews the skills and knowledge needed to perform a history and physical examination appropriate for hospital admission. This course is graded S/U.		
8002.02 Orthodontics I Case Seminars	G	½ - 10	8153 Anesthesia Seminar	G	½ - 1
Discussion of clinical cases. Repeatable.			Comprehensive review of general anesthesia and sedation as well as related subjects to anesthesiology and oral and maxillofacial surgery residents in small group discussion format. Repeatable to a maximum of 10 cr hrs or 10 completions.		
8201 Advanced Orthodontics Orientation	G	1	8201 Advanced Orthodontics Orientation	G	1
			Orientation to methods used in conjunction with clinical care with an emphasis on diagnosis and treatment planning.		

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8202 Contemporary Orthodontics	G	½	8410 Introduction to Removable Prosthodontics	G	1
Introduction to concepts related to diagnosis, prioritization of problems and treatment planning orthodontic cases.			Diagnosis and treatment planning for edentulous patients. This course is graded S/U.		
8203 Orthodontic Appliance Design	G	½	8412 Occlusal Schemes for Complete Prostheses	G	2
Design, application and fabrication of orthodontic appliances frequently used in the clinical setting. The primary clinical function of these appliances includes: anchorage, tooth movement, skeletal change, habit management and retention.			Occlusal scheme treatment options for edentulous patients. Includes laboratory component.		
8204 Cephalometrics	G	½	8413 Removable Prosthodontics Design and Fabrication	G	1
Cephalometric techniques and interpretation in relation to orthodontic treatment and growth.			Occlusal and laboratory procedures associated with designing removable prosthodontics for edentulous patients. Includes laboratory component.		
8205 Typodont Technique I	G	1	8420 Fixed Prosthodontics Tooth Preparations	G	2
Wire Bending techniques use in the treatment of orthodontic problems.			Ideal tooth preparation methodology and guidelines to support fixed prosthesis. Reinforcement for anterior tooth contours which lend themselves to optimum esthetic results as well as periodontal health. Includes laboratory component.		
8206 Typodont Technique II	G	½	8421 Fixed Prosthodontics and Diagnostic Procedures	G	1
Tweed edgewise technique.			Diagnostic Procedures and treatment options for fixed oral rehabilitation including mandibular movement studies. Includes laboratory component.		
8207 Orthodontic Diagnosis and Treatment I	G	2	8422 Occlusal Schemes and Morphology For Fixed Prosthodontics	G	2
Orthodontic diagnosis and treatment planning focusing on problem oriented diagnostic approaches and evidence-based treatment. Seminar format.			Dentate occlusal schemes, static tooth contacts, excursive tooth contacts. Includes laboratory component.		
8208 Orthodontic Diagnosis and Treatment II	G	½ - 2	8423 Fixed Prosthodontics Fabrication Techniques for Alloy Restorations	G	1
Orthodontic diagnosis and treatment planning focusing on problem oriented diagnostic approaches and evidence-based treatment. Seminar format.			Introduction to standards for fixed prosthodontic prostheses. Includes laboratory component.		
8209 Biomechanics I	G	1½	8424 Fixed Prosthodontics Fabrication Techniques for Metal-Ceramic Restorations	G	1
Biomechanics as related to Orthodontic treatment. Topics may include: biological basis of tooth movement, concepts of engineering stress and strain, polar moments of inertia, biomechanics or orthodontic tooth movement and skeletal anchorage.			Material science principles of porcelain metal bond and procedures for porcelain application. Topics also include shade selection and correction. Includes laboratory component.		
8210 Biomechanics II	G	1½	8437 Implant Interdisciplinary Lectures	G	2
Biomechanics as related to Orthodontic treatment. Topics may include: biological basis of tooth movement, concepts of engineering stress and strain, polar moments of inertia, biomechanics or orthodontic tooth movement and skeletal anchorage.			Overview of the way in which periodontists, prosthodontists, oral surgeons and orthodontists work together to provide care for dental implant patients. Repeatable to a maximum of 20 or hrs. This course is graded S/U.		
8211 Orthodontic Materials	G	1½	8446 Prosthodontic Treatment Planning Literature Review	G	1
Scientific principles relating to the compositions, structures, properties and clinical performance of major orthodontic materials. Selection of orthodontic materials for clinical practice. Review of current orthodontic materials literature.			Overview of evidence based treatment planning for prosthodontic therapy. Repeatable to a maximum of 10 or hrs. This course is graded S/U.		
8213 Dentofacial Orthopedics	G	2	8451 Interdisciplinary Periodontics Prosthodontics Seminar	G	1
Diagnosis and management of patients with dento-facial deformities.			Overview of the relationships between periodontic and prosthodontic treatment with an emphasis on the pre-surgical, surgical and post-surgical aspects of dental implants. Repeatable to a maximum of 10 cr hrs.		
8214 Growth and Development	G	2	8458 Special Topics in Multidisciplinary Care	G	1
Principles of growth and development as they apply to orthodontics.			Overview of the interrelationships between various dental specialties. Topics include endodontics, anesthesia, pediatric dentistry, sleep apnea, orthodontics, facial growth and development, oral surgery and preprosthetic surgery. This course is graded S/U.		
8215 Orthodontic Practice Management	G	½ - 2½	8460 Maxillofacial Prosthodontics Introduction	G	1
Overview of practice management topics including financial, legal and clinical administration issues. Focus is on establishment and management of an individual or small group orthodontic practice.			Introduction to maxillofacial prosthodontics including types of defects, prostheses and their principles of design and issues related to oncologic therapy.		
8216 Craniofacial Anomalies	G	1½	8466 Maxillofacial Prosthodontics Literature Review	G	1
Diagnosis, treatment and management of the patient with cleft lip and palate and other craniofacial anomalies from a multi-disciplinary approach.			Review of literature related to maxillofacial prosthodontics including critical assessment of study validity and evidence based treatment decisions. Repeatable to a maximum of 10 cr hrs.		
8300 Introduction to Periodontology	G	1	8471 Dental Materials Metals and Polymers	G	1
Introduction to Advanced Periodontics. This course is graded S/U.			Overview of evidence based treatment decisions related to the use of dental alloys and polymers. Repeatable to a maximum of 10 cr hrs.		
8302 Practice Management Seminar	G	½	8472 Dental Materials: Ceramics and Polymers	G	1
This course is designed to expose dental specialty students to practice management scenarios as a catalyst for critical thinking to enhance decision making processes for their practices. This course is graded S/U.			This course presents basic scientific and engineering information on polymeric dental materials and ceramic dental materials. The focus will be on understanding the basic physical, mechanical and biological properties of these materials. Each course session will start with a lecture and conclude with presentation and discussion of current literature. Repeatable to a maximum of 3 cr hrs.		
8303 Anatomy and Histology of the Periodontium	G	1	8474 Pharmacology and TMD for Dental Specialists	G	2
Periodontal anatomy and histology, including peri-implant and surgical anatomy.			Overview of Pharmacology for students in Advanced Dental Speciality Education Programs with an emphasis on drug interactions. Impact of Temporomandibular Disorders on dental treatment from the perspective of structure and function. This course is progress graded (S/U).		
8304 Periodontal Concepts I	G	2	8600 Advanced Endodontics	G	1 - 5
Periodontal disease assessment, classification, epidemiology, etiology & pathogenesis.			Advanced endodontic topics. May also include literature review and national examination review. Repeatable to a maximum of 50 cr hrs or 50 completions.		
8305 Periodontal Concepts II	G	2			
Periodontal diseases and conditions, and risk assessment.					
8306 Periodontal Concepts III	G	½			
Periodontal disease risk assessment.					
8307 Periodontal Concepts IV	G	2			
Periodontal disease therapy and patient management.					
8308 Periodontal Concepts V	G	2			
Periodontal disease therapy and patient management.					
8310 Introduction to Implants	G	1½			
Biological and clinical considerations for dental implant therapy.					

8601 Oral Pathology I	G	½	2130 Design Fundamentals III	U	3
Review and discussion of oral management and prognosis of selected developmental, inflammatory, immunologically-mediated and infectious diseases. Repeatable to a maximum of 5 cr hrs.			Application of acquired skills and knowledge of visual language and spatial constructs to generate design concepts in a given context. Prereq: 2110. Concur: 2330. Not open to students with credit for 252. This course is available for EM credit.		
8602 Oral Pathology II	G	2	2310 Visual Principles and Techniques I	U	3
Review and detailed discussion of oral manifestations, etiology, pathogenesis, management and prognosis of selected neoplasms, bone disorders and additional conditions of immunologic, salivary and odontogenic origin. Repeatable to a maximum of 20 cr hrs.			Skill building in using drawing to observe, see, record and communicate characteristics of subjects, objects, information, environments, experiences and interactions. Concur: 2110. Not open to students with credit for 203. This course is available for EM credit. VSP Admis Cond course.		
8603 Oral Pathology for Periodontists	G	1	2330 Visual Principles and Techniques III	U	3
Review and discussion of oral and systemic conditions that arise in or affect the jaws and particularly the alveolar or periodontal hard and soft tissues. Repeatable to a maximum of 10 cr hrs.			Skills and techniques mix media that assist in interpreting, translating and generating visual narratives that reveal relationships among subjects, objects, information, environments, experience and interactions. Prereq: 2310. Concur: 2130. Not open to students with credit for 203 and 205. This course is available for EM credit.		
8635 Diagnostic Histopathology	G	½ - 2	2700 Introduction to Design Practice	U	3
Daily review of oral biopsy laboratory service materials, including microscopic differential diagnosis, case management and final diagnosis. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.			Introduction to theory, rationale, practice, and societal impact of design; design process, critical issues, relationship to the environment. Design Minor and Entrepreneurship and Innovation Minor students may register without prereqs or corequisites. Concur: 2110, 2120, 2310, and 2320. Not open to students with credit for 200. This course is available for EM credit. VSP Admis Cond course.		
8650 Neoplasms	G	½ - 2	2750 Design History	U	3
Specialist level review and discussion of neoplastic disease. Repeatable to a maximum of 20 cr hrs.			A history of design as affected by technology, science, and cultural world view. Prereq: 2110, 2120, 2310, 2320, and 2700, or minor in Design. Concur: 2130, 2140, 2330, and 2340, or minor in Design. This course is available for EM credit.		
8703 Children with Disabilities and Chronic Illnesses	G	1½	3101 Introduction to Industrial Design I	U	3
Management of the oral health of patients with special health care needs. Repeatable to a maximum of 15 cr hrs.			Introduction to divergent thinking strategies including design research, observation, abstraction, evaluation and communication in the context of Industrial Design. Prereq: Enrollment in Design major, or permission of instructor. Concur: 3200, 3301, and 3400. Not open to students with credit for 262.04.		
8704 Pediatric Dentistry Behavior Issues	G	1	3102 Introduction to Interior Design I	U	3
Basic principles and theories of child development and the age-appropriate behavior responses in the dental setting. Repeatable to a maximum of 10 cr hrs.			The study of the relationship of form, function and material within the context of Interior Design. Prereq: Enrollment in Design major, or permission of instructor. Concur: 3200, 3302, and 3400. Not open to students with credit for 262.08.		
8705 Pediatric Dentistry Restorative Treatment	G	1	3103 Introduction to Visual Communication Design I	U	3
Restorative and prosthetic techniques and materials for the primary, mixed and permanent dentitions. Repeatable to a maximum of 10 cr hrs.			Design and application of graphic systems in the production of visual communications within frameworks of theories of communication and signs. Prereq: Enrollment in Design major, or permission of instructor. Concur: 3200, 3400, and 3503. Not open to students with credit for 262.02.		
8706 Pediatric Dentistry Pulp and Trauma Treatment	G	½ - 1	3104 Introduction to Game Design	U	3
Evaluation, diagnosis, and management of the pulpal, periodontal and associated soft tissues following traumatic injury. Repeatable to a maximum of 10 cr hrs.			Introduction to Game Design introduces students to the principles of game design and provides opportunities for them to be put into practice using analog materials and methods. Students explore what motivates play, risk-taking and reward systems, and the visual design of games for serious applications and leisure. Create, test, and play games developed in the course.		
8707 Pediatric Dentistry Sedation	G	½ - 2	3105 Exploring Design Thinking	U	3
The principles and objectives of conscious sedation, deep sedation and general anesthesia as behavior management techniques, including indications and contraindications for their use. Repeatable to a maximum of 20 cr hrs or 20 completions.			An overview of concepts, processes and modes of identifying problems and proposing effective solutions from a design-oriented perspective. Prereq: Not open to students with credit for 230.		
8708 Pediatric Dentistry Cariology	G	½ - 1½	3151 Introduction to Industrial Design II	U	3
The scientific basis for the prevention and treatment of dental caries and periodontal diseases. Repeatable to a maximum of 15 cr hrs.			Application of divergent thinking strategies including design research, manufacturing, evaluation and digital communication in the context of Industrial Design. Prereq: 3101, and enrollment in Design major, or permission of instructor. Concur: 3450 and 3550. Not open to students with credit for 460.04.		
8709 Pediatric Dentistry Dental Public Health and Advocacy	G	½ - 2	3152 Introduction to Interior Design II	U	3
Introduction of the concepts and techniques of disease prevention and health promotion in dentistry and health. In-depth advocacy training with hands-on exercises. Repeatable to a maximum of 20 cr hrs.			The study of the relationship between the user and spatial form, function and material within the context of Interior Design. Prereq: 3102, and enrollment in Design major, or permission of instructor. Concur: 3450 and 3552. Not open to students with credit for 460.08.		
8710 Graduate Pediatric Oral Pathology	G D	1	3153 Introduction to Visual Communication Design II	U	3
Oral Pathology for Pediatric Dentists. Repeatable to a maximum of 5 cr hrs.			Design and application of typographic systems in the production of visual communications within frameworks of theories of communication. Prereq: 3103, and enrollment in Design major, or permission of instructor. Concur: 3450 and 3550. Not open to students with credit for 460.02.		
8840 Current Issues in Oral Biology	G	½ - 2	3200 Design Research I	U	3
Didactic overview of current areas of health research. Repeatable to a maximum of 40 cr hrs or 20 completions.			Introduction to techniques and methods of evaluative research. Prereq: Enrollment in Design major, or permission of instructor. Concur: 3101, 3301, and 3400; or 3102, 3302, and 3400; or 3103, 3400, and 3503. Not open to students with credit for 555.		
8901 Oral Biology Laboratory Rotations	G	½ - 2			
Research activities and training in the laboratory of a program faculty member. Repeatable to a maximum of 40 cr hrs or 20 completions. This course is progress graded (S/U).					
8993 Individual Studies in Advanced Dentistry	G	½ - 12			
Advanced individual studies in any of the recognized fields of dentistry. Repeatable.					
8999 Research in Dentistry	G	½ - 12			
Research for thesis purposes only. Repeatable. This course is graded S/U.					
Design					
2110 Design Fundamentals I	U	3			
Introduction to form, organizational structures and problem solving in the context of basic 2D design. Concur: 2310. Not open to students with credit for 252. This course is available for EM credit.					

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3301 Visualization Strategies for Industrial Design I U 3

Skill development in using freehand sketching for rapid concept generation, form development and communication in the context of Industrial Design.

Prereq: Enrollment in Design major, or permission of instructor. Concur: 3101, 3200, and 3400. Not open to students with credit for 501.

3302 Visualization Strategies for Interior Design I U 3

Introduction to the principles of related spatial representation in Interior Design.

Prereq: Enrollment in Design major, or permission of instructor. Concur: 3102, 3200, and 3400. Not open to students with credit for 521.

3305 Visualization as Thinking U 3

An overview of concepts, processes and modes of communicating with visual media to effectively generate design proposals.

Prereq: Not open to students with credit for 201.

3400.01 Design Media I for Industrial Design U 3

Introduction of concept development through processes of sequential imaging, time-based media and motion graphics for Industrial Design.

Prereq: Enrollment in Design major, or permission of instructor. Concur: 3101, 3200, and 3301; or 3102, 3200, and 3302; or 3103, 3200, and 3503. Not open to students with credit for 3400 (320), 3400.02, or 3400.03.

3400.02 Design Media I for Interior Design U 3

Introduction of concept development through processes of sequential imaging, time-based media and motion graphics for Interior Design.

Prereq: Enrollment in Design major, or permission of instructor. Concur: 3101, 3200, and 3301; or 3102, 3200, and 3302; or 3103, 3200, and 3503. Not open to students with credit for 3400 (320), 3400.01, or 3400.03.

3400.03 Design Media I for Visual Communication Design U 3

Introduction of concept development through processes of sequential imaging, time-based media and motion graphics for Visual Communication Design.

Prereq: Enrollment in Design major, or permission of instructor. Concur: 3101, 3200, and 3301; or 3102, 3200, and 3302; or 3103, 3200, and 3503. Not open to students with credit for 3400 (320), 3400.01, or 3400.02.

3450.01 Design Media II for Industrial Design U 3

Intermediate course in digital media and emerging trends in idea generation, visualization and interactivity for Industrial Design.

Prereq: 3400.01, and enrollment in Design major; or permission of instructor. Concur: 3151 and 3550.01; or 3152 and 3552; or 3153 and 3550.01. Not open to students with credit for 3450 (573), 3450.02, or 3450.03.

3450.02 Design Media II for Interior Design U 3

Intermediate course in digital media and emerging trends in idea generation, visualization and interactivity for Interior Design.

Prereq: 3400.02, and enrollment in Design major; or permission of instructor. Concur: 3151 and 3550.02; or 3152 and 3552; or 3153 and 3550.02. Not open to students with credit for 3450 (573), 3450.01, or 3450.03.

3450.03 Design Media II for Visual Communication Design U 3

Intermediate course in digital media and emerging trends in idea generation, visualization and interactivity for Visual Communication Design.

Prereq: 3400.03, and enrollment in Design major; or permission of instructor. Concur: 3151 and 3550.03; or 3152 and 3552; or 3153 and 3550.03. Not open to students with credit for 3400 (573), 3450.01, or 3450.02.

3503 Typographic Design U 3

Introduction to basic two- and three-dimensional practices in visual communication design; emphasis on typographic design and systematic method and research techniques.

Prereq: Enrollment in Design major, or permission of instructor. Concur: 3103, 3200, and 3400. Not open to students with credit for 258.

3505 Presentation as Thinking U 3

An overview of concepts, processes and modes of presenting information to create effective printed and digital communications.

Prereq: Not open to students with credit for 258.

3550.01 Materials, Process, and Production for Industrial Design U 3

An overview of current and emerging materials and manufacturing processes commonly applied in production for Industrial Design.

Prereq: Enrollment in Design major, or permission of instructor. Concur: 3151 and 3450.01; or 3153 and 3450.01. Not open to students with credit for 3550 (254), 3550.02, or 3550.03.

3550.02 Materials, Process, and Production for Interior Design U 3

An overview of current and emerging materials and manufacturing processes commonly applied in production for Interior Design.

Prereq: Enrollment in Design major, or permission of instructor. Concur: 3151 and 3450.02; or 3153 and 3450.02. Not open to students with credit for 3550 (254), 3550.01, or 3550.03.

3550.03 Materials, Process, and Production for Visual Communication Design U 3

An overview of current and emerging materials and manufacturing processes commonly applied in production for Visual Communication Design.

Prereq: Enrollment in Design major, or permission of instructor. Concur: 3151 and 3450.03; or 3153 and 3450.03. Not open to students with credit for 3550 (254), 3550.01, or 3550.02.

3552 Interior Design Technology I U 3

Principles of contract documentation, laws, ethics, codes, standards, guidelines and sustainable practices within the context of Interior Design.

Prereq: Enrollment in Design major, or permission of instructor. Concur: 3152 and 3450. Not open to students with credit for 525.

4101 Intermediate Industrial Design I U 3

Introduction to problem and opportunity identification in the context of product design. Experience with evaluative research methods and product design development process at the intermediate level.

Prereq: 3151, and enrollment in Design major; or permission of instructor. Concur: 4200 and 4400. Not open to students with credit for 461.04.

4102 Intermediate Interior Design I U 3

Principles of space organization with FF&E (furniture, fixtures and equipment); the study of human-interior product interface relationships.

Prereq: 3152, and enrollment in Design major; or permission of instructor. Concur: 4200, 4302, and 4502. Not open to students with credit for 461.08.

4103 Intermediate Visual Communication Design I U 3

Design and application of information systems in the production of visual communications within frameworks of theories of communication.

Prereq: 3153, and enrollment in Design major; or permission of instructor. Concur: 4200 and 4400. Not open to students with credit for 461.02.

4104 Intermediate Game Design I U 3

Intermediate Game Design 1 introduces students to concepts for designing and prototyping digital games for entertainment, learning and social good. Students create, test, and play screen-based games developed in the course.

Prereq: 3104.

4151 Intermediate Industrial Design II U 3

Introduction to problem and opportunity identification in the context of experience design. Experience with generative research methods and design development process at the intermediate level.

Prereq: 4101, and enrollment in Design major; or permission of instructor. Concur: 4650 and 4750. Not open to students with credit for 462.04.

4152 Intermediate Interior Design II U 3

Principles of order, spatial sequence and connectivity; the study of medium size space organization and interior and exterior design correlations.

Prereq: 4102, and enrollment in Design major; or permission of instructor. Concur: 4650 and 4750. Not open to students with credit for 462.08.

4153 Intermediate Visual Communication Design II U 3

Design and application of graphic form explorations that emphasize seeing, interpreting, manipulating, composing, and creating visual communication signs and messages.

Prereq: 4103, and enrollment in Design major; or permission of instructor. Concur: 4650 and 4750. Not open to students with credit for 462.02.

4154 Intermediate Game Design II U 3

Intermediate Game Design 2 introduces students to concepts for designing and producing fun and serious games and apps that include networked multi-player formats and mobile devices. Students create, test, and play mobile games developed in the course.

Prereq: 4104.

4200 Design Research II U 3

Introduction to tools techniques and methods and mindsets of generative research.

Prereq: 3200, and enrollment in Design major; or permission of instructor. Concur: 4101 and 4400; or 4102, 4302, and 4502; or 4103 and 4400. Not open to students with credit for 554.

4302 Visualization Strategies for Interior Design II U 3

Intermediate study of the principles of spatial representation in Interior Design.

Prereq: Enrollment in Design major, or permission of instructor. Not open to students with credit for 522.

4400.01 Design Media III for Industrial Design U 3

Exposure to future trends in participatory and collaborative design methods enabled by technology through multi-user, telepresence, immersive and virtual simulations, with surveys of concepts in human-computer interaction and interface design for Industrial Design.

Prereq: 3450.01, and enrollment in Design major; or permission of instructor. Concur: 4101 and 4200; or 4103 and 4200. Not open to students with credit for 4400 (502), 4400.02, or 4400.03.

4400.02 Design Media III for Interior Design U 3

Exposure to future trends in participatory and collaborative design methods enabled by technology through multi-user, telepresence, immersive and virtual simulations, with surveys of concepts in human-computer interaction and interface design for Interior Design.

Prereq: 3450.02, and enrollment in Design major; or permission of instructor. Concur: 4101 and 4200; or 4103 and 4200. Not open to students with credit for 4400 (502), 4400.01, or 4400.03.

4400.03 Design Media III for Visual Communication Design	U	3	5151 Advanced Industrial Design II	U G	3
Exposure to future trends in participatory and collaborative design methods enabled by technology through multi-user, telepresence, immersive and virtual simulations, with surveys of concepts in human-computer interaction and interface design for Visual Communication Design.			A competency with tools, technologies, skills and materials in the exploration, creation, and production of products, artifacts, environments, systems, communication solutions and services.		
Prereq: 3450.03, and enrollment in Design major; or permission of instructor. Concur: 4101 and 4200; or 4103 and 4200. Not open to students with credit for 4400 (502), 4400.01, or 4400.02.			Prereq: 5101, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5800. Not open to students with credit for 661.04.		
4405 Design Media for Non-Majors	U	3	5152 Advanced Interior Design II	U G	3
The application of electronic media technologies to design content.			Student develops project that applies principles of organizational strategy and interior identity development addressing the physical, social, and psychological context of work, leisure, and learning environments.		
Prereq: 3105, 3305, or 3505. Not open to students with credit for 320.			Prereq: 5102, or Grad standing or enrollment in Design major, or permission of instructor. Concur: 5552. Not open to students with credit for 661.08.		
4502 Interior Design Technology II	U	3	5153 Advanced Visual Communication Design II	U G	3
An overview of current and emerging materials, construction methods and manufacturing processes in Interior Design.			Apply design research, problem definitions, concept development, and implementation approaches in creating comprehensive projects that are relevant to proposed subject, design objectives, and targeted audiences.		
Prereq: 3552, and enrollment in Design major; or permission of instructor. Concur: 4102, 4200, and 4302. Not open to students with credit for 525.			Prereq: 5103, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5453. Not open to students with credit for 661.02.		
4505 3-D Visualization	U	3	5191 Internship	U G	1½ - 9
Concepts of 3D modeling, rendering and animation for visualizing design forms.			Field application of design in a capacity requiring a close working relationship within a professional environment.		
Prereq: 3305. Not open to students with credit for 571.			Prereq: Grad standing, or enrollment in Design major; or permission of instructor. Repeatable to a maximum of 27 cr hrs or 3 completions.		
4650 Collaborative Design	U	3	5193 Individual Studies	U G	3 - 9
Interdisciplinary knowledge and problems examined and discussed in the context of social responsibility (global and local).			Advanced study for students in specialized programs.		
Prereq: Enrollment in Design major, or permission of instructor. Concur: 4151 and 4750; or 4152 and 4750; or 4153 and 4750. Not open to students with credit for 760.			Prereq: Enrollment in Design major, or permission of instructor. Not open to students with credit for 693. Repeatable to a maximum of 27 cr hrs or 3 completions.		
4750 Professional Practices	U	3	5194 Group Studies	U G	3 - 9
Investigation of the administrative and legal aspects of the design profession contrasting the private firm with corporate and free-lance practices.			Group studies for students in specialized programs.		
Prereq: Enrollment in Design major, or permission of instructor. Concur: 4151 and 4650; or 4152 and 4650; or 4153 and 4650. Not open to students with credit for 656.			Prereq: Grad standing, or enrollment in Design major, or permission of instructor. Not open to students with credit for 694. Repeatable to a maximum of 27 cr hrs or 3 completions.		
4797 Study at a Foreign Institution	U	6	5200.01 Design Research III for Industrial Design	U G	3
A study abroad experience at a foreign institution approved by the Department of Design.			Addresses design opportunities, including the skills of problem identification, formulation, qualitative and quantitative research, analysis, synthesis, and project proposals for Industrial Design.		
Prereq: Enrollment in Design major, or permission of instructor. Not open to students with credit for 697.			Prereq: 4200, and Design major; or Grad standing; or permission of instructor. Concur: 5101 and 5301; or 5102 and 5502; or 5103 and 5800.01. Not open to students with credit for 5200, 5200.02, 5200.03, 662.02, 662.04, or 662.08.		
4998 Undergraduate Scholarship: Research and Creative Activity in Design	U	3	5200.02 Design Research III for Interior Design	U G	3
Undergraduate research and creative activities in varying topics.			Addresses design opportunities, including the skills of problem identification, formulation, qualitative and quantitative research, analysis, synthesis, and project proposals for Interior Design.		
Prereq: Enrollment in Design major, or permission of instructor. Not open to students with credit for 699.			Prereq: 4200, and Design major; or Grad standing; or permission of instructor. Concur: 5101 and 5301; or 5102 and 5502; or 5103 and 5800.02. Not open to students with credit for 5200, 5200.01, 5200.03, 662.02, 662.04, or 662.08.		
4998H Undergraduate Scholarship: Honors Research and Creative Activity in Design	U	3	5200.03 Design Research III for Visual Communication Design	U G	3
Undergraduate Honors research and creative activities in varying topics.			Addresses design opportunities, including the skills of problem identification, formulation, qualitative and quantitative research, analysis, synthesis, and project proposals for Visual Communication Design.		
Prereq: Honors standing, and enrollment in Design major, or permission of instructor. Not open to students with credit for 783H.			Prereq: 4200, and Design major; or Grad standing; or permission of instructor. Concur: 5101 and 5301; or 5102 and 5502; or 5103 and 5800.03. Not open to students with credit for 5200, 5200.01, 5200.02, 662.02, 662.04, or 662.08.		
4999 Undergraduate Scholarship: Thesis Research and Creative Activity in Design	U	3	5301 Visualization Strategies for Industrial Design II	U G	3
Undergraduate thesis research and creative activities in varying topics.			Design and application of information systems in the production of visual communications within frameworks of Design Research and Industrial Design.		
Prereq: Enrollment in Design major, or permission of instructor. Not open to students with credit for 699.			Prereq: 3301, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5102 and 5200. Not open to students with credit for 552.		
4999H Undergraduate Scholarship: Honors Thesis Research and Creative Activity in Design	U	3	5405 Web Communications	U G	3
Undergraduate Honors thesis research and creative activities in varying topics.			Electronic communication techniques related to the web and interactivity; web design and technology principles.		
Prereq: Honors standing, and enrollment in Design major; or permission of instructor. Not open to students with credit for 783H.			Prereq: 3505. Not open to students with credit for 673.		
5101 Advanced Industrial Design I	U G	3	5453 Visual Communication Design Media IV	U G	3
Application of problem and opportunity identification in the context of a specific client organization needs.			Design and application of interactive and interface design in the production of visual communications within frameworks of theories of communication.		
Prereq: 4101, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5200 and 5301. Not open to students with credit for 660.04.			Prereq: 4400, or Grad standing, or enrollment in Design major, or permission of instructor. Co-req: 5153. Not open to students with credit for 673.		
5102 Advanced Interior Design I	U G	3	5502 Interior Design Technology III	U G	3
Principles of organizational strategy and interior identity development addressing the physical, social, and psychological context of work, leisure, and learning environments.			Principles of environmental control within the context of Interior Design.		
Prereq: 4102, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5200 and 5502. Not open to students with credit for 460.08.			Prereq: 5101, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5800. Not open to students with credit for 524.		
5103 Advanced Visual Communication Design I	U G	3	5505 Information Design	U G	3
Application of planning, analyzing, and designing in two- or three-dimensional visual communication systems; emphasis on application of design research, strategic thinking, creative concepts, and graphic implementation.			Design principles related to visualizing quantitative information, processes and systems.		
Prereq: 4103, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5200 and 5800. Not open to students with credit for 660.02.			Prereq: Not open to students with credit for 340.		

128 Design

5552 Interior Design Technology IV U G 3

Principles of material specifications, liability, contracts and bidding documentation within the context of Interior Design.

Prereq: 5502, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5152. Not open to students with credit for 523.

5600S Design Matters U G 3

Students in this interdisciplinary design/build studio have the opportunity to work on site in a collaborative design environment with a local non-profit organization.

Prereq: Enrollment in Design major, or permission of instructor. Not open to students with credit for 553S.

5750 Advanced Design History: Interiors, Contents, Communication, and Culture U G 3

Advanced study of the history of the designed environment, product, and communication systems.

5798 Study Tour U G 3 - 9

Specific content, location, term(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Grad standing, Design majors only, or permission of instructor. Not open to students with credit for 698.01 or 698.02. Repeatable to a maximum of 9 cr hrs or 2 completions.

5800.01 Design Seminar for Industrial Design U G 3

Investigation of issues and inquiry into topics of relevance to design; group discussions and analysis of events, processes, manifestations and procedures in Industrial Design.

Prereq: Grad standing, or enrollment in Design major; or permission of instructor. Concur: 5151, or 5103 and 5200.01. Not open to students with credit for 5800 (780), 5800.02, or 5800.03.

5800.02 Design Seminar for Interior Design U G 3

Investigation of issues and inquiry into topics of relevance to design; group discussions and analysis of events, processes, manifestations and procedures in Interior Design.

Prereq: Grad standing, or enrollment in Design major; or permission of instructor. Concur: 5151, or 5103 and 5200.02. Not open to students with credit for 5800 (780), 5800.01, or 5800.03.

5800.03 Design Seminar for Visual Communication Design U G 3

Investigation of issues and inquiry into topics of relevance to design; group discussions and analysis of events, processes, manifestations and procedures in Visual Communication Design.

Prereq: Grad standing, or enrollment in Design major; or permission of instructor. Concur: 5151, or 5103 and 5200.03. Not open to students with credit for 5800 (780), 5800.01, or 5800.02.

6100 Methods and Tools for Conducting Design Research G 3

Hands-on learning experiences in using and analyzing design research methods, tools and techniques, user-centered design research (applied ethnography, contextual inquiry, evaluative research, usability) and generative design research.

Prereq: Grad standing in Design, or permission of instructor. Not open to students with credit for 786. Repeatable to a maximum of 6 cr hrs.

6200 Foundation for Graduate Design Studies G 3

Expectations, orientation, and available resources in the department and university. Historical and contextual groundwork of the discipline of design through the study of a broad range of contemporary and emerging research approaches.

Prereq: Design grad students only, or permission of instructor. Not open to students with credit for 785. Repeatable to a maximum of 6 cr hrs.

6300 Exploration in Graduate Design Studies G 3

Exploration and discovery in future-oriented domains of design practice and research.

Students will practice the tools for exploration including reading, writing, making, planning, and reflection in order to establish their own research path.

Prereq: Design grad students only, or permission of instructor. Not open to students with credit for 787. Repeatable to a maximum of 6 cr hrs.

6400 Graduate Design Studio G 3

Hands-on learning experiences in the studio or field. Collaborative teams work to explore, identify and/or solve problems. Topics vary depending on the opportunity for sponsored projects, emerging trends in practice and expertise of instructor.

Prereq: Grad standing in Design, or permission of instructor. Not open to students with credit for 760. Repeatable to a maximum of 18 cr hrs.

6500 Graduate Design Seminar G 3

Reading, thinking, discussing, reflecting, and writing are used to explore topics of relevance. Topics vary depending on emerging trends in design practice and in the world as well as the expertise and research interest of the instructor.

Prereq: Grad standing in Design, or permission of instructor. Not open to students with credit for 780. Repeatable to a maximum of 18 cr hrs.

7193 Individual Studies G 1/2 - 6

Individual studies.

Prereq: Grad standing in Design, or permission of instructor. Not open to students with credit for 993. Repeatable to a maximum of 18 cr hrs or 6 completions.

7194 Group Studies G 3

Group studies for students in specialized programs.

Prereq: Design grad students only, or permission of instructor. Not open to students with credit for 894. Repeatable to a maximum of 6 cr hrs.

7998 Thesis Project Development G 1/2 - 6

Development of project outcomes as part of Thesis research.

Prereq: Grad standing in Design, or permission of instructor. Not open to students with credit for 950. Repeatable to a maximum of 18 cr hrs or 6 completions.

7999 Thesis Writing Development G 1/2 - 6

Development of writing outcomes as part of Thesis research.

Prereq: Grad standing in Design, or permission of instructor. Not open to students with credit for 998. Repeatable to a maximum of 18 cr hrs or 6 completions.

Disability Studies

4998 Undergraduate Research U 1 - 4

Undergraduate research in variable topics related to Disability Studies. Student-initiated projects.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4998H Undergraduate Honors Research U 1 - 4

Undergraduate honors research in variable topics related to Disability Studies. Student-initiated projects.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4999 Undergraduate Research: Thesis U 1 - 4

A program of reading, research, writing, and/or creative work arranged for each student, with individual conferences, progress reports, and thesis.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

4999H Honors Thesis Research U 1 - 4

A program of reading, research, writing, and/or creative work arranged for each student, with individual conferences, progress reports, and honors thesis.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

5191 Disability Studies Internship U G 1 - 3

Offers undergraduate and graduate students the opportunity to work with disability-related organizations on or off campus.

Prereq: English 2277 or SpHLng 4510, and permission of instructor who will supervise the internship. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5193 Individual Studies U G 1 - 3

Students may register for individual directed study under this number for work not typically offered in courses.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5194 Group Studies U G 1 - 3

Students may register for group-directed study under this number for work not normally offered in courses.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

5700 Disability Studies Workshop U G 1 - 3

Structured participation in seminar/event organized for that semester. Optional course for the Graduate Interdisciplinary Specialization in Disability Studies.

Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

6700 Introduction to Graduate Study in Disability Studies G 3

Introduction to Disability Studies as an interdisciplinary academic field of study; outlines major scholarly perspectives, methodologies, and professional issues in the study of disability.

Prereq: Not open to students with credit for ArtsSci 6700 (700).

7700 Disability Studies Research Forum G 1

Research forum/round table for students enrolled in the GIS-DS to share their work in Disability Studies (both course work and independent research).

Prereq: 6700 or ArtsSci 6700 (700), or permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

Diversity and Identity Studies

5700 Diversity and Identity Studies Workshop U G 1 - 3

Students study topics about diversity (race, class, gender, disability, sexuality, etc) in a seminar-like setting, often focused on the work of visiting scholars.

Prereq: Jr or Sr standing, Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

Earth Science

1100 Planet Earth: How It Works
U 4

The materials of the Earth's crust, the processes that produce and modify them, the development of the Earth and its life forms through time, and responsible stewardship of the earth's resources. Not intended for ASC B.S. students.

Prereq: Not open to students with credit for EarthSci 100 or GeolSci 100. This course is available for EM credit. GE nat sci phys course. NS Admis Cond Course.

1105 Geology of the National Parks
U 3

Geologic processes, materials, and history revealed in geologic settings of the National Parks. Not intended for ASC BS students.

Prereq: Not open to students with credit for 1100, EarthSci 100, 105, GeolSci 100, or 105. GE nat sci phys course. NS Admis Cond course.

1107 Field-Based Introduction to Oceanography
U 2

Origin, development, and structure of ocean basins and their contents; contemporary oceanic processes of geologic significance. Offered full-time for 1 week at Stone Lab.

Prereq: Permission of instructor. Not open to students with credit for EarthSci 107, 206, GeolSci 107, or 206.

1108 Gemstones
U 3

General introduction to gemstones, including the origin of gems, identification techniques, and the history of important gems. Precious metals are also discussed. Not intended for ASC BS students.

Prereq: Not open to students with credit for EarthSci 108 or GeolSci 108. GE nat sci phys course.

1110H Honors History of Life on Earth-Global Change in the Biosphere
U 3

3.5 billion years of biosphere global change; introduction to major evolutionary and extinction events; processes responsible for change; and biosphere, atmosphere, and lithosphere interrelationships.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for EarthSci 110, 110H, GeolSci 110, or 110H. GE nat sci phys course. NS Admis Cond course.

1121 The Dynamic Earth
U 4

Plate tectonics; rock forming processes; climate change; energy resources.

Prereq: Math 1075 (104) or above, or ACT Mathematics Subscore of 22 or higher, or Math Placement Level R or better. Not open to students with credit for EarthSci 121, 1121H, or GeolSci 121. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1121H Honors The Dynamic Earth
U 4

Minerals, rocks, and their origin; land forms and how they are produced; structural features of the Earth's crust.

Prereq: Honors standing, and Math 1075 (104) or above, ACT Mathematics Subscore of 22 or higher, or Math Placement Level R or better; or permission of instructor. Not open to students with credit for EarthSci 1121 (121), 121H, GeolSci 121, or 121H. GE nat sci phys course. NS Admis Cond course.

1122 Earth Through Time
U 4

Origin and evolution of Earth, including its physical, chemical and biological components; principles of geologic inference and their application to interpreting Earth.

Prereq: Not open to students with credit for EarthSci 122 or GeolSci 122. GE nat sci phys course. NS Admis Cond course.

1122H Honors Earth Through Time
U 4

Origin and evolution of Earth, including its physical, chemical, and biological components; principles of geologic inference and their application to interpreting Earth.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for EarthSci 122, 122H, GeolSci 122, or 122H. GE nat sci phys course. NS Admis Cond course.

1151 Natural Hazards
U 3

Occurrence and causes of earthquakes, volcanoes, and related hazards, and impact on climate, society, and history.

Prereq: Not open to students with credit for EarthSci 151 or GeolSci 151. GE nat sci phys course.

1911 Climate Change: Mechanisms, Impacts, and Mitigation
U 4

Examination of the basic science of climate change, of the ability to make accurate predictions of future climate, and of the implications for global sustainability by combining perspectives from the physical sciences, the biological sciences, and historical study.

GE historical study and nat sci bio and nat sci phys course.

2155 Energy and Environment
U 3

Introduces and examines the fundamentals of energy sources, energy use, energy efficiency, and resulting environmental implications of the various energy supplies.

Prereq: Not open to students with credit for EarthSci 155 or ENR 2155 (155). GE nat sci phys course. Cross-listed in ENR.

2194 Group Studies
U 1 - 4

Group studies in various fields of the earth sciences.

Prereq: Permission of instructor. Not open to students with 10 cr hrs of EarthSci 294 or GeolSci 294. Repeatable to a maximum of 10 cr hrs or 10 completions.

2203 Environmental Geoscience
U 3

Concepts and challenges of geological hazards and resources, environmental pollution, and health; regional and long-range planning; and global change and sustainability.

Prereq: Not open to students with credit for EarthSci 203 or GeolSci 203. GE nat sci phys course. NS Admis Cond course.

2204 Exploring Water Issues
U 3

Water on Earth, human impacts, and scientific and technological issues related to water resource development and conservation.

Prereq: Not open to students with credit for EarthSci 204 or GeolSci 204. GE nat sci phys course. NS Admis Cond course.

2205 The Planets
U 3

Survey of the solar system's planets and moons with focus on surface environments, dynamics, and the ability to host life.

Prereq: Not open to students with credit for EarthSci 205 or GeolSci 205. GE nat sci phys course.

2206 Principles of Oceanography
U 3

Introduction to the four basic disciplines of oceanography: geological, chemical, physical, and biological. Relevance of oceanography in contemporary issues.

Prereq: Not open to students with credit for EarthSci 206 or GeolSci 206. GE nat sci phys course.

2210 Energy, Mineral Resources, and Society
U 3

Geologic origin, world distribution, and uses of mineral resources critical to society; topics include mineral and fossil fuels, metallic ores, and industrial minerals.

Prereq: Not open to students with credit for EarthSci 210 or GeolSci 210. GE nat sci phys course. NS Admis Cond course.

2245 Introductory Data Analysis for Earth and Environmental Sciences
U 4

Data analysis using cooperative learning environment; topics include data visualization, error analysis, error propagation, probability distributions, hypothesis testing, ANOVA, linear regression, and spatial statistics.

Prereq: Math 1151 or above, or concur: Math 1141, or permission of instructor. GE data only course.

2998 Undergraduate Research in Earth Sciences
U 1 - 10

Undergraduate research or creative activities in variable topics.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

2998H Honors Undergrad Research in Earth Sciences
U 1 - 10

Honors undergraduate research or creative activities in variable topics.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 credit hours or 15 completions. This course is graded S/U.

3193 Individual Studies
U 1 - 3

Special problems in any branch of the earth sciences for which the student has the proper qualifications.

Prereq: Permission of instructor. Not open to students with 6 cr hrs of EarthSci 3193 (EarthSci 293) or GeolSci 293. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

3203 Basic Science, Research, and Implications for Society
U 3

Integration of pure science disciplines to address basic principles and challenges in our society from both qualitative and quantitative perspectives.

Prereq: Math 1075 (104), or ACT Mathematics Subscore of 22 or higher, or Math Placement Level R or better. Not open to students with credit for Chem 1100 (100). MA Admis Cond course.

3411 Water Security for the 21st Century
U 3

Examine the major issues that are contributing to the decline in quantity and quality of global freshwater resources and the resultant environmental and societal impacts.

Prereq: EarthSci 2245 (EarthSci 245) or other GEC or GE data only course, and Soph standing and above. Not open to students with credit for EarthSci 411 or GeolSci 411.

4194 Group Studies
U 1 - 4

Group study of special topics in various fields of the earth sciences.

Prereq: Permission of instructor. Not open to students with 10 cr hrs for EarthSci 4194 (EarthSci 294) or GeolSci 294. Repeatable to a maximum of 10 cr hrs or 10 completions.

4194H Honors Group Studies
U 1 - 4

Group study of special topics in various fields of the earth sciences.

Prereq: Honors standing, and permission of instructor. Not open to students with 10 cr hrs for EarthSci 4194 (EarthSci 294) or GeolSci 294. Repeatable to a maximum of 10 cr hrs or 10 completions.

4310 Remote Sensing in the Earth Sciences
U 3

Acquisition, processing and analysis of satellite and airborne remote sensing data. Includes visible band to microwave (e.g., MODIS, LandSat, and SAR). Also includes geodetic measurements such as altimetry and gravity.

Prereq: 1121, and Math 1141 or 1151 or above, and Physics 1250 or above.

130 Earth Science

4421	Earth Materials	U	3		5160	Geomicrobiology	U G	3
	Internal and external symmetry of minerals; relationship of physical properties to crystal structure; introduction to modern and traditional identification methods; sight identification of about 30 minerals.				The role of microorganisms in shaping our environment through mineralogical and geochemical processes at both local and global scales, in the present day and over geologic time periods.			
	Prereq or concur: Chem 1210. Not open to students with credit for EarthSci 421, GeolSci 221, or GeolSci 421.				Prereq: Sr or Grad student in School of Earth Sciences, Department of Microbiology, Department of Civil, Environmental, and Geodetic Engineering, or School of Environment and Natural Resources. Not open to students with credit for Microbio 5160. Cross-listed in Microbio.			
4423	Introductory Petrology	U	3		5189.01	Field Geology I	U G	3
	Origin, occurrence, association, and mineral composition of the common rocks; laboratory includes work by megascopic and microscopic methods.				Concentrated training in the basic essentials of field observation and mapping; the work is done in central Utah, with headquarters in Ephraim. Requires full time of student.			
	Prereq: 1121 (121) or GeolSci 121; and Prereq or concur: 4421 (421) or GeolSci 421. Not open to students with credit for 2212 (212), 423, or GeolSci 212 or 423.				Prereq: EarthSc 4423 (EarthSci 423), 6423, or GeolSci 423; and 4530 (530), 6530, or GeolSci 530; and permission of instructor. Not open to students with credit for EarthSci 581 or GeolSci 581.			
4450	Water, Ice, and Energy in the Earth System	U	3		5189.02	Field Geology II	U G	3
	Earth's energy budget and the transfer of water between reservoirs. Processes that regulate water transfer, common measurement approaches, and the importance of water in geological processes, global change, and as a resource.				Concentrated training in the basic essentials of field observation and mapping; the work is done in central Utah, with headquarters in Ephraim. Continuation of 5189.01. Requires full time of student.			
	Prereq: 1121 (EarthSci 121), and Chem 1210 (122) or Physics 1250 (131), or permission of instructor.				Prereq or concur: EarthSc 5189.01 (EarthSci 581) or GeolSci 581. Not open to students with credit for EarthSci 582 or GeolSci 582.			
4501	Paleontology	U	4		5189.05	Field Geology for Educators: Lake Erie	U G	2
	Fundamentals of paleontology and processes responsible for the fossil record. Application of paleontology to geology, evolutionary studies, paleoclimatology, paleoenvironmental reconstruction.				Application of geological principles and interpretation of Earth features in selected areas, with related research reports and teaching units. 7-day field trip.			
	Prereq: EarthSc 1122 (EarthSci 122) or GeolSci 122, and 3 cr hrs in Biological Sciences. Not open to students with credit for EarthSci 501, GeolSci 201, or 501.				Prereq: EarthSc 1100 (EarthSci 100), GeolSci 100 or equiv; and permission of instructor. Not open to students with credit for EarthSci 583.03 or GeolSci 583.03. May not be used to satisfy BS, MS, or PhD degree requirements in EarthSc.			
4502	Stratigraphy and Sedimentation	U	4		5189.06	Field Geology for Educators: Unspecified	U G	1 - 4
	Principles of, and procedures in, stratigraphy and sedimentation, illustrated by field and laboratory studies of sedimentary rocks.				Application of geological principles and interpretation of Earth features in selected areas, with related research reports and teaching units. Field trip and cl. Intended primarily for in-service and pre-service teachers and education majors.			
	Prereq: EarthSc 1121 (EarthSci 121) or GeolSci 121, and EarthSc 1122 (EarthSci 122) or GeolSci 122. Not open to students with credit for EarthSci 502 or GeolSci 502.				Prereq: EarthSc 1100 (EarthSci100), GeolSci 100 or equiv; and permission of instructor. Not open to students with credit for EarthSci 583.04 or GeolSci 583.04. May not be used to satisfy BS, MS, or PhD degree requirements in EarthSc. Repeatable to a maximum of 8 cr hrs or 3 completions.			
4530	Structural Geology	U	4		5191	Internship in the Earth Sciences	U G	1 - 5
	An introduction to the principles of rock deformation, the classification and physical origin of rock structures, and crustal tectonic processes.				Combines experience in earth science policy or practice in a governmental agency, private industry, or nonprofit organization with analysis of that experience.			
	Prereq: EarthSc 1121 (EarthSci 121) or GeolSci 121, and Physics 1250 (131) or above. Not open to students with credit for EarthSci 530 or GeolSci 530.				Prereq: Jr standing or above; and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
4560	Applied Geophysics	U	3		5193.02	Individual Studies in Engineering Geology	U G	1 - 3
	Methods and techniques of pure and applied geophysics; geological interpretation of geophysical data.				Special problems in any branch of engineering geology for which the student has the proper qualifications.			
	Prereq: 1121, and Math 1141 or 1151 or above, and Physics 1250 or above.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.			
4798	Environmental Sustainability in Costa Rica (Study Tour)	U	3		5193.03	Individual Studies in Earth and Planetary Sciences	U G	1 - 3
	Traditional lectures and a study tour explore the complex relationship between the use and conservation of natural resources and economic development in Costa Rica, especially the role of protected areas in ensuring the country's environmental sustainability. Within the Earth Sciences B.S. degree, this course can only be used in the Earth System Science subprogram to meet the requirements for credits taken outside Earth Sciences. This course cannot be used to meet any other requirements within the Earth Sciences B.S.				Special problems in any branch of the earth and planetary sciences for which the student has the proper qualifications.			
	Prereq: One college-level geology, ecology, biology, or environmental sciences course; and one college-level Spanish course (or excellent achievement in at least three years in high school Spanish); and permission of instructor.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.			
4998	Undergraduate Research in Earth Sciences	U	1 - 10		5193.04	Individual Studies in Field Geology	U G	1 - 3
	Undergraduate research or creative activities in variable topics.				Special problems in any branch of field geology for which the student has the proper qualifications.			
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions for the combination of EarthSc 4998 (EarthSci 699) and GeolSci 699. This course is graded S/U.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.			
4998H	Honors Research	U	1 - 10		5193.05	Individual Studies in Geochemistry	U G	1 - 3
	Honors undergraduate research or creative activities in variable topics.				Special problems in any branch of geochemistry for which the student has the proper qualifications.			
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.			
4999.01	Undergraduate Research for Thesis in Earth Sciences	U	1		5193.06	Individual Studies in Geomorphology	U G	1 - 3
	Undergraduate research or creative activities in variable topics leading to completion of a B.S. thesis. To be taken during semester when thesis is turned in.				Special problems in any branch of geomorphology for which the student has the proper qualifications.			
	Prereq: Sr standing, or permission of instructor. Not open to students with credit for 570.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.			
4999.01H	Honors Undergraduate Research for Thesis in Earth Sciences	U	1		5193.07	Individual Studies in Geophysics	U G	1 - 3
	A program of individual study arranged for students enrolled in the Honors Program with individual conferences and reports; requires presentation and oral defense of an honors thesis.				Special problems in any branch of geophysics for which the student has the proper qualifications.			
	Prereq: Honors standing, and permission of instructor.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.			
4999.02	Undergraduate Research for Thesis in Earth Sciences	U	1 - 3		5193.08	Individual Studies in Glaciology	U G	1 - 3
	Undergraduate research or creative activities in variable topics leading to completion of a B.S. thesis.				Special problems in any branch of glaciology for which the student has the proper qualifications.			
	Prereq: Sr standing, or permission of instructor. Not open to students with credit for EarthSci 570. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions for the combination of EarthSc 5193 (EarthSci 693) and GeolSci 693. This course is graded S/U.			
4999.02H	Honors Undergraduate Research for Thesis in Earth Sciences	U	1 - 3					
	A program of individual study arranged for students enrolled in the Honors Program with individual conferences and reports; requires presentation and oral defense of an honors thesis.							
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.							

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5193.09 Individual Studies in History of the Earth Sciences	U G	1 - 3
Special problems in any branch of the history of the earth sciences for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions for the combination of EarthSc 5193 (EarthSci 693) and GeolSci 693. This course is graded S/U.		
5193.10 Individual Studies in Hydrogeology		
Special problems in any branch of hydrogeology for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions for the combination of EarthSc 5193 (EarthSci 693) and GeolSci 693. This course is graded S/U.		
5193.11 Individual Studies in Marine Geology, Limnology, and Oceanography	U G	1 - 3
Special problems in any branch of marine geology, limnology, or oceanography for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions for the combination of EarthSc 5193 (EarthSci 693) and GeolSci 693. This course is graded S/U.		
5193.12 Individual Studies in Paleobiology	U G	1 - 3
Special problems in any branch of paleobiology for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		
5193.13 Individual Studies in Petrology and Petrography	U G	1 - 3
Special problems in any branch of petrology and petrography for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		
5193.14 Individual Studies in Remote Sensing and Geographic Information Systems	U G	1 - 3
Special problems in any branch of remote sensing and GIS for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		
5193.15 Individual Studies in Sedimentation	U G	1 - 3
Special problems in any branch of sedimentology for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		
5193.16 Individual Studies in Stratigraphy	U G	1 - 3
Special problems in any branch of stratigraphy for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		
5193.17 Individual Studies in Structural Geology	U G	1 - 3
Special problems in any branch of structural geology for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		
5193.18 Individual Studies in Earth Science Education	U G	1 - 3
Special problems in any branch of earth science education for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		
5193.19 Individual Studies Unspecified	U G	1 - 3
Special problems in any branch of the earth sciences for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		
5193.20 Individual Studies in Global Change and Sustainability	U G	1 - 3
Special problems in any topic in global change and sustainability for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		
5193.21 Individual Studies in Neotectonics	U G	1 - 3
Special problems in any branch of neotectonics for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		
5193.22 Individual Studies in Mineralogy	U G	1 - 3
Special problems in any branch of mineralogy for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		

5193.23 Individual Studies in Mineral Physics	U G	1 - 3
Special problems in any branch of mineral physics for which the student has the proper qualifications.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeolSci 693. This course is graded S/U.		
5194 Group Studies		
Group study of special topics in various fields of the earth sciences.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 15 completions for the combination of 5194 (694) and GeolSci 694.		
5203 Geo-environment and Human Health	U G	3
Examine geo-environmental processes that are contributing to human health degradation and the resultant societal impacts.		
Prereq: EarthSc 2245 (EarthSci 245), or GE data anly course, or equiv; and Soph standing or above; or permission of instructor.		
5206 Advanced Oceanography	U G	3
Advanced study of geological, chemical, physical, and biological oceanography; their interactions; and their interactions with relevant current issues such as global change modeling, fisheries management, and energy exploration.		
Prereq: 1100, 1105, 1121, GeolSci 100, 105, or 121; or Grad standing; or permission of instructor.		
5550 Geomorphology	U G	4
Investigation of the mechanics and chemistry of landscape development; interpretation of materials, processes, types, and evolution of landforms produced under diverse climates.		
Prereq: EarthSc 1121 (EarthSci 121) or GeolSci 121; EarthSc 1122 (EarthSci 122) or GeolSci 122; or permission of instructor. Not open to students with credit for EarthSci 550 or GeolSci 550.		
5580 Standards-Based Earth Science for Educators	U G	1 - 5
Examination of selected essential earth science topics through appropriate field, laboratory, and classroom activities.		
Prereq: 10 hrs in physical or biological sciences with 3 cr hrs of introductory geological sciences recommended; or permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. May not be used to satisfy BA, BS, MS, or PhD degree requirements in EarthSc.		
5618 Advanced Historical Geology	U G	2
Principles of historical-geological analysis and interpretation of Earth's physical, chemical, and biological history.		
Prereq: EarthSc 4502 or 6502 (EarthSci 502), or GeolSci 502 or equivalent. Repeatable to a maximum of 12 cr hrs with 5618 (618) and GeolSci 618.		
5621 Introduction to Geochemistry	U G	3
Introduction to the chemistry of the solid Earth and hydrosphere describing the processes controlling the distribution of elements.		
Prereq: Chem 1220 or above; Sr standing in EarthSc (EarthSci) or related field; or permission of instructor. Not open to students with credit for 621 or GeolSci 621.		
5622 Stable Isotope Biogeochemistry	U G	3
Focus on theoretical and applied aspects of stable isotope biogeochemistry in the natural environment with emphasis on carbon, oxygen and nitrogen.		
Prereq: Sr or Grad standing in any science program; or permission of instructor. Not open to students with credit for EarthSci 622 or GeolSci 622.		
5627 Global Biogeochemical Cycles	U G	3
Examination of processes influencing the cycling of major elements in the environment: anthropogenic alteration of these cycles (e.g. nutrient addition, acid rain, greenhouse gases).		
Prereq: EarthSc 5621 (EarthSci 621) or GeolSci 621, or permission of instructor. Not open to students with credit for EarthSci 627 or GeolSci 627.		
5628 Environmental Isotope Geochemistry	U G	3
Use of natural and anthropogenic radioactivity and of natural variations in the isotope compositions of selected elements to study geochemical processes on the Earth's surface.		
Prereq: EarthSc 5621 (EarthSci 621) or GeolSci 621; or permission of instructor. Not open to students with credit for EarthSci 628 or GeolSci 628.		
5629 Principles of Petrology	U G	3
Application of physics, chemistry, and mathematics to the interpretation of igneous and metamorphic rocks.		
Prereq: Sr or Grad standing in EarthSc (EarthSci) or related field; or permission of instructor. Not open to students with credit for EarthSci 629 or GeolSci 629.		
5641 Geostatistics	U G	3
Applications of statistical methods to geoscience data, including linear error propagation, least-squares estimation, confidence interval estimation, analysis of variance. Role of computer graphics in data analysis.		
Prereq: Stat 5301 (528) or equiv, and Math 1152 (153) or above; or permission of instructor. Not open to students with credit for EarthSci 641, GeolSci 641, GeoSciM 5652 (GeodSciM 650 or 651), or 7763 (762).		

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5642 Geomathematical Analysis	U G 3	
Principles of geoscientific analysis and computing, including digital inversion, factor analysis, discriminant analysis, spectral analysis, digital systems analysis, and presentation graphics for the earth sciences.		
Prereq: Grad standing, or Math 1152 (153) or above, or written permission of instructor. Not open to students with credit for EarthSci 642 or GeolSci 642.		
5644 Tectonic Evolution of Continents	U G 3	
Survey of lithotectonic assemblages and structural associations in Archean, Proterozoic, and Phanerozoic orogenic terranes in relation to tectonic models for crustal evolution.		
Prereq: EarthSc 4423, 6423 (EarthSci 423), or GeolSci 423; and EarthSc 4502, 6502 (EarthSci 502), or GeolSci 502; and EarthSc 4530, 6530 (EarthSci 530), or GeolSci 530; or permission of instructor. Not open to students with credit for EarthSci 644 or GeolSci 644.		
5645 Advanced Structural Geology	U G 4	
Mechanisms of deformation; dynamic and kinematic analysis of rock structures; field and laboratory methods of structural analysis.		
Prereq: EarthSc 4530 or 6530 (EarthSci 530), or GeolSci 530 or equivalent. Not open to students with credit for EarthSci 645 or GeolSci 645.		
5646 Geodynamics	U G 3	
Application of mathematical and physical methods to the solution of geologic problems in heat flow, plate tectonics, interior dynamics, mountain building, ground-water flow, river mechanics.		
Prereq: EarthSc 4530 or 6530 (EarthSci 530), or GeolSci 530 or equivalent; Math 1152 (153) or above; and Physics 1250 (131) or above; or permission of instructor. Not open to students with credit for EarthSci 646 or GeolSci 646.		
5650 Glaciology	U G 4	
The fundamental processes controlling ice flow, glacier mass balance and the interaction of glaciers and ice sheets with the solid earth, ocean and atmosphere. Observational and computational methods are also addressed.		
Prereq: EarthSci 4450 (EarthSci 450) or permission of instructor. Not open to students with credit for EarthSci 650 or GeolSci 650.		
5651 Hydrogeology	U G 4	
Geologic and hydrologic factors controlling the occurrence, movement, storage, and chemical quality of surface water and ground water; exploration, evaluation, development and management of water resources.		
Prereq: EarthSc 1121 (EarthSci 121) or GeolSci 121; and Math 1152 (153) or above. Not open to students with credit for EarthSci 651 or GeolSci 651.		
5655 Land Surface Hydrology	U G 3	
Physical processes of land surface hydrology in the context of the global hydrologic cycle. Consideration of the processes and mechanisms responsible for water and energy fluxes, with examples from various river basins.		
Prereq: Math 1152 (153) or above, Chem 1210 (121) or above, and Physics 1250 (131) or above.		
5661 Petroleum Geology	U G 4	
The formation, accumulation, and trapping of oil and natural gas. Geologic source beds and traps; hydrocarbon flow; hydraulic properties of reservoirs and confining units; hydrocarbon chemistry; thin-section analysis of reservoir rocks.		
Prereq: 4423 or 6423 (EarthSci 423 or GeolSci 423); and 4502 or 6502 (EarthSci 502 or GeolSci 502); or permission of instructor. Not open to students with credit for EarthSci 661 or GeolSci 661.		
5670 General and Economic Geology of Selected Areas	U G 2 - 4	
Concentrated field study of the stratigraphy, structural geology, tectonics, petrology, and geomorphology of a selected region. 5 or 10-day field trip preceding or following the semester, or during May session. Post-trip readings and report required.		
Prereq: 4502 or 6502 (EarthSci 502 or GeolSci 502); and 4530 or 6530 (EarthSci 530 or GeolSci 530); and 5550 (EarthSci 550 or GeolSci 550); or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions.		
5675 Scanning Electron Microscopy	U G 2	
Basic theoretical concepts and practical applications of scanning electron microscopy (SEM).		
Prereq: Chem 1210 or 1220, or equivalent; or permission of instructor.		
5680 Deep Earth Geophysics	U G 3	
Methods and techniques for study of Earth's crust and interior, involving potential fields, seismology, and heat flow.		
Prereq: Math 1152 (153) or above; and Physics 1251 (133) or above. Not open to students with credit for EarthSci 680 or GeolSci 680.		
5687 Borehole Geophysics	U G 3	
Principles and applications of borehole geophysical practices in the energy industry and in scientific drilling.		
Prereq: 1121, and Math 1141 or 1151 or above, and Physics 1250 or above.		
5718 Aquatic Geochemistry	U G 3	
Examination of the processes that control chemical equilibria in natural waters: acid/base reactions, metal complexation/speciation and oxidation-reduction processes. Intended for students in EarthSci, CivilEn, and the Grad EnvSci program.		
Prereq: Chem 1220 (122) or above; and Math 1151 (152) or above; or equivalents. Not open to students with credit for EarthSci 718 or GeolSci 718.		
5719 Environmental Organic Geochemistry	U G 3	
Fate and distribution of organic pollutants in the environment including aqueous solubility, vapor pressure, environmental partition coefficients, and transformation reactions Intended for students in EarthSc, CivilEn, and the Grad EnvSci program.		
Prereq: 5718 (EarthSci 718 or GeolSci 718), and Chem 4200 (520); or permission of instructor. Not open to students with credit for EarthSci 719 or GeolSci 719.		
5746 Seminar in Rheological Properties of Solids	U G 1 - 2	
Principles of rheology of solids and empirical studies of brittle and ductile deformation mechanics, with special reference of applications to crust and mantle problems and glacial flow.		
Prereq: 4530, 6530, (530), or GeolSci 530; and Math 2153 or 254 or above; or permission of instructor. Not open to students with credit for 746 or GeolSci 746. Repeatable to a maximum of 12 cr hrs or 12 completions.		
5751 Quantitative Reservoir Modeling	U G 4	
Principles of analytical and numerical techniques in modeling single- and multiphase flow in gas, oil, and water (aquifer) reservoirs. Development of Matlab code for two- and three-dimensional flow in porous media.		
Prereq: 2245 and Math 1152, or permission of instructor.		
5779 Seminar in Physical Properties of Minerals and Rocks	U G 1 - 2	
Quantitative survey of electrical, magnetic, elastic, inelastic, radioactive, thermal, density, and seismic properties and chemical composition of rocks and minerals.		
Prereq: 4421, 6421 (421), or GeolSci 421; and 5680 (680) or GeolSci 680, or equivs; or permission of instructor. Not open to students with credit for 779 or GeolSci 779. Repeatable to a maximum of 12 cr hrs or 12 completions.		
5780 Reflection Seismology	U G 4	
Basics of reflection seismic data processing and interpretation, using petroleum industry standard seismic processing software, hardware, and data.		
Prereq: 1121, and Math 1141, or 1151 or above, and Physics 1250 or above.		
5781 Gravity Exploration	U G 3	
Analytical treatment of concepts and methods of gravimetry; introductory theory of gravitational potential; geological interpretation of gravity data; gravity surveying.		
Prereq: Math 1152 (153) or above, or Grad standing; or permission of instructor. Not open to students with credit for EarthSci 781 or GeolSci 781.		
6502 Stratigraphy and Sedimentation	G 4	
Principles of, and procedures in, stratigraphy and sedimentation, illustrated by field and laboratory studies of sedimentary rocks.		
Prereq: EarthSc 1121 (EarthSci 121 or GeolSci 121) and 1122 (EarthSci 122 or GeolSci 122). Not open to students with credit for EarthSci 4502 (EarthSci 502 or GeolSci 502).		
6530 Structural Geology	G 4	
An introduction to the principles of rock deformation, the classification and physical origin of rock structures, and crustal tectonic processes.		
Prereq: 1121 (EarthSci 121 or GeolSci 121), and Physics 1250 (131) or above. Not open to students with credit for 4530 (EarthSci 530 or GeolSci 530).		
6750 Paleoclimatology	G 4	
Examination of climate records in ice, lake, and marine cores, tree rings, corals and historical records for a global perspective of Quaternary climate change.		
Prereq: Grad standing or permission of instructor. Not open to students with credit for EarthSci 750 or GeolSci 750.		
7998 Research in the Earth Sciences	G 1 - 12	
Graduate-level research.		
Prereq: Grad standing in EarthSc or GeodSci. Repeatable. This course is graded S/U.		
7999 Research for Thesis in the Earth Sciences	G 1 - 12	
Graduate-level research for thesis purposes only.		
Prereq: Grad standing in EarthSc or GeodSci. Repeatable. This course is graded S/U.		
8800 Seminar in Stratigraphy and Basin Analysis	G 1 - 2	
Consideration of current and classical problems and procedures in biostratigraphic and lithostratigraphic analysis and synthesis.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.		
8801 Seminar in Sedimentology	G 1 - 2	
Consideration of sedimentation and the structures, petrography, depositional environments, and paleontologic interpretation of sedimentary rocks.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.		
8821 Seminar in Geochemistry	G 1 - 2	
Selected topics in applications of chemistry to earth science problems; geochronology, geochemistry, geochemical cycles, and cosmochemistry.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.		
8822 Seminar in Mineralogy, Mineral Physics, and Petrology	G 1 - 2	
Selected topics in optical mineralogy and igneous, sedimentary, and metamorphic petrology.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.		
8850 Seminar in Glaciology and Geomorphology	G 1 - 3	
Selected topics in glaciology, glacial history, and geomorphology.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.		

8851 Seminar in Hydrogeology and Oceanography G 1 - 2

Topics in hydrogeology and oceanography, such as ground-water hydrology and hydraulics, basin management, water resources, paleohydrology, reef and atoll development, or paleo-oceanography.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8860 Seminar in Energy Resources G 1 - 2

Study of selected deposits of subsurface energy resources, including fossil fuels and geothermal.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8898 Colloquium in the Earth Sciences G 1

Presentations and discussions of current research in the earth sciences provided by visitors, faculty and students.

Prereq: Grad standing in EarthSci or GeodSci. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8998 Research in the Earth Sciences G 1 - 12

Graduate-level research.

Prereq: Grad standing in EarthSci or GeodSci. Repeatable. This course is graded S/U.

8999 Dissertation Research in the Earth Sciences G 1 - 12

Research for dissertation purposes only.

Prereq: Grad standing in EarthSci or GeodSci. Repeatable. This course is graded S/U.

East Asian Languages and Literatures

1231 East Asian Humanities U 3

Introduction to the contemporary and traditional cultures of China, Korea, and Japan taught through readings, films, and demonstrations.

Prereq: Not open to students with credit for 131. GE cultures and ideas and diversity global studies course.

2284 Tea Culture in East Asia U 3

Approaches tea from multiple perspectives, including, but not limited to, history, geography, agriculture, commerce, health, nutrition, arts and crafts, folklore, and transmission of everyday cultural practices. Classes include lectures, discussion, and a laboratory of preparation and tasting of a variety of tea.

GE cultures and ideas course.

3223 The Buddhist Tradition U 3

History and structure of Buddhism from founding to present in South, Southeast, and East Asia. Emphasis on rituals, beliefs, and local and regional variations. RelStd 2370 recommended.

Prereq: Not open to students with credit for 323, CompStd 3673 (323), or RelStd 3673 (323). Cross-listed in RelStd 3673.

3446 Asian American Film U 3

Introduction to Asian American cinema from the 1960s to the present, including documentaries, feature films, and experimental films.

Prereq: Not open to students with credit for 346. GE VPA course.

4193 Individual Studies U 1 - 3

Directed study to meet individual research needs of students in East Asian studies. Not a substitute for regular language courses.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

4194 Group Studies U 1 - 3

Group investigation of issues in East Asian studies. Varying topics.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

5310 Strategies for Performance-Oriented Language Learning: Practicum U G 3

An overview of language-learning strategies and practice in applying them to learning of East Asian languages.

Prereq: Chinese 1102.01, 1102.02, or 4 credits of 1102.51; or Japanese 1102.01, 1102.02, or 4 credits of 1102.51; or Korean 1102.01, 1102.02, or 4 credits of 1102.51; or permission of instructor. Repeatable to a maximum of 9 cr hrs.

5383 Scripts of East Asia U G 3

A critical survey of writing systems that use Chinese characters, popular and scholarly myths about them, and their impact on the history of ideas.

Prereq: Soph standing in Chinese, Japanese, or Korean, or permission of instructor. Not open to students with credit for 683.

5475 Women Writers, Culture and Society in East Asia U G 3

Close examination of representative works of major women writers from China, Japan, and Korea in the cultural and ideological context of each country. No knowledge of East Asian languages is required. All reading materials are in English.

Prereq: Chinese 2231, 2232, Japanese 2231, or Korean 2231, or at least one literature course at the college level, or permission of instructor. Not open to students with credit for 675.

5477 Performance Traditions in Contemporary East Asia U G 3

Introduction to the panorama of oral and orally-connected performance traditions of East Asia. Explores local traditions of professional storytelling, epic, folksongs, dance, or drama.

Prereq: 1231, Chinese 2231, 2232, 2451, 2452, Japanese 2231, 2451, 2452, Korean 2231, or 2451, or permission of instructor. Not open to students with credit for 677.

5797 Study at a Foreign Institution U G 3 - 9

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Prereq: Admission to specific study abroad program that accepts this course. Repeatable to a maximum of 24 cr hrs or 8 completions.

6193 Individual Studies G 1 - 3

Individual investigation of East Asian cultures, languages, and literatures.

Prereq: Permission of department chairperson. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

6194 Group Studies G 1 - 3

Group investigation of issues in East Asian studies. Varying topics.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

7700 Learning East Asian Languages in Cross-Cultural Contexts: College Level G 1 - 3

Principles and practices of designing instruction and assessing performances in an East Asian language as a foreign language at post-secondary level American academic institutions.

Concurrent registration in 7703 and 7704 recommended.

Su Sem. Prereq: High-level competence in target East Asian language, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. FL Admis Cond course.

7701 Pedagogical Syntax for East Asian Languages G 3

Training in the presentation of grammar in East Asian language classes; special attention given to problems of translating linguistic studies into teachable units.

Au, Sp Sems. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.

7702 Materials Preparation for East Asian Languages G 3

Preparation of materials for teaching Chinese, Japanese, and Korean. Emphasis on the special problems faced by English-speaking students in learning these languages.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

7703 Presentation of East Asian Languages and Cultures G 1 - 2

Preparation and presentation of curriculum and syllabus for East Asian language program and adaptation of learning materials. Concurrent registration in 7700 and 7704 recommended.

Su Sem. Prereq: High-level competency in the target East Asian language, and permission of instructor. Repeatable to a maximum of 4 cr hrs or 2 completions. FL Admis Cond course.

7704 Teaching Practicum in East Asian Languages G 1 - 5

Training as a classroom teacher through practice teaching to students and the observation of classes taught by trainees and master teachers.

Prereq: High-level competence in an East Asian language, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions. FL Admis Cond course.

7705 Seminar in the Learning of East Asian Languages and Cultures G 3

Critical analysis of insights and theories from various disciplines relevant to the pedagogy of East Asian languages and cultures.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

7897 Introduction to Graduate-level East Asian Studies G 1

The origins, development and current state of East Asian Area Studies in the U.S., including its relationship to other intellectual disciplines.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 797, History 7405 (797), or HistArt 6801 (797). This course is graded S/U. Cross-listed in History 7405 and HistArt 6801.

8701 Teaching East Asian Languages at the College Level G 3

Techniques of teaching college-level East Asian languages; effective use of teaching, testing, and laboratory materials; observation of a variety of language classes.

Au Sem. Prereq: Permission of instructor. Not open to students with credit for 801.

8870 Research Presentations in East Asian Languages and Literatures G 1 - 3

Research presentations and discussions of specific problems in East Asian languages and literatures.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

East European Languages and Literatures

5627 Reading Course in a Balkan or East European Language U G 3

Fundamentals of grammar and vocabulary needed for reading a non-Slavic language of Eastern or East Central Europe or the Balkans (e.g., Albanian, Romanian, Estonian, Hungarian, Latvian, or Lithuanian).

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

5797 Study at a Foreign Institution U G 1 - 9

Opportunity to study at an educational institution in East Central, Southeastern, or Eastern Europe and receive OSU credit. Students pay OSU fees, any fees in excess of tuition, travel & subsistence costs.

Prereq: Permission of dept chairperson. Repeatable to a maximum of 36 cr hrs or 9 completions. This course is progress graded.

134 East European Languages and Literatures

7628 Balkan Linguistics

G 3

Linguistic discussion of issues in a non-Slavic language or languages of the Balkan Sprachbund, with some reading in the original language(s). Repeatable with change of topic by permission of instructor.
Prereq: 7627 (671), or permission of instructor. Not open to students with credit for 672. Repeatable to a maximum of 6 cr hrs.

Economics

1100.01 Current Economic Events in Historical Perspective

U 3

Introduction to economic analysis; historical background for interpreting current economic events. Discuss current issues in a historical context, including topics like taxes and unemployment. A one-course introduction to economics.

Prereq: Not open to students with credit for 110.01. GE soc sci human, nat, and econ resources course.

1100.02 Freakonomics

U 3

Discuss current social problems and issues within an economics framework, including topics such as job discrimination and integration. A one-course introduction to economics.

Prereq: Not open to students with credit for 110.02. GE soc sci human, nat, and econ resources course.

2001.01 Principles of Microeconomics

U 3

Introduction to economic theory: supply and demand for goods, services, and factor inputs; market structure; international trade, the distribution of income. First required course for students planning to take 4000-level courses in Econ.

Prereq: Not open to students with credit for 2001.02, 2001.03H, 200, 200H, or AEDEcon 2001 (200). This course is available for EM credit. GE soc sci human, nat, and econ resources course. SS Admis Cond course.

2001.03H Principles of Microeconomics

U 3

An advanced introduction to economic theory: supply and demand for goods, services, and factor inputs; market structure; international trade, the distribution of income. First required course for students planning to take 4000-level courses in econ.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2001.01, 2001.02 (200), or 200H, and AEDEcon 2001 (200) or 2001H (200H). GE soc sci human, nat, and econ resources course.

2002.01 Principles of Macroeconomics

U 3

Introduction to the theory of national income determination; economic fluctuations; money; government policy; international economics.

Prereq: Not open to students with credit for 2002.02, 2002.03H, 201, or 201H. This course is available for EM credit. GE soc sci orgs and polities course.

2002.03H Principles of Macroeconomics

U 3

An advanced introduction to the theory of national income determination; economic fluctuations; money; government policy; international economics.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2002.01, 2002.02 (201, 201H). GE soc sci orgs and polities course.

2194 Group Studies

U 1 - 5

Current problems not covered in other courses. Credit for Econ 294 counts against hour cap. Prereq: 2001.01, 2001.02, 2001.03H (200 or 200H), or equiv. Repeatable to a maximum of 7 cr hrs or 2 completions.

2367.02 Current Economic Issues in the United States

U 3

Study of problems currently facing the U.S. economy.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv, and English 1110 (110). Not open to students with credit for 367.02. GE writing and comm: level 2 and soc sci orgs and polities course.

3001 Economy, Polity, and Community

U 3

Examines how different ways of thinking about human nature shape our understanding of philosophy, politics and economics.

Prereq: Econ 2001.XX or 2002.01 or 2002.03H; and Philos 2400 or PolitSc 2400 or 2400H; and Econ 5001 or Philos 2500 or 5540 or PolitSc 4553 or 4553H; and Philos 3300; and Econ 3400 or IntStd 3400 or PolitSc 3780 or 3780H; and PolitSc 4280 or 4380. Not open to students with credit for Philos 3001 or PolitSc 3001. Cross-listed in Philos and PolitSc.

3002 Tradition, Progress, and Utopia

U 3

Examines how different ways of thinking about social and political change shape our understanding of philosophy, and economics.

Prereq: Econ 2001.XX or 2002.01 or 2002.03H; and Philos 2400 or PolitSc 2400 or 2400H; and Econ 5001 or Philos 2500 or 5540 or PolitSc 4553 or 4553H; and Philos 3300; and Econ 3400 or IntStd 3400 or PolitSc 3780 or 3780H; and PolitSc 4280 or 4380. Not open to students with credit for Philos 3002 or PolitSc 3002. Cross-listed in Philos and PolitSc.

3048 Ethics and Social Responsibility in Economic Life

U 3

Examines the role of ethical norms and social constraints in determining economic outcomes.

Prereq: At least one of these courses, 1100.01 (110.01), 1100.02 (110.02), 1100.03 (110.03), 2001.01, 2001.02 (200), 2001.03H (200H), 2002.01 2002.02 (201), or 2002.03H (201H), is recommended. Not open to students with credit for 348. GE soc sci indivs and groups course.

3400 The Analysis and Display of Data

U 3

Introduction to the analysis of data. Topics include sampling, data collection, probability, inference, random variables, display of data, correlation, and analysis of variance. This course does not count toward a course elective for Econ majors.

Prereq: Not open to students with credit for 4400 (444), 5410 (641), 5420 (642), 443, IntStd 3400 (443), Stat 1430 (133), 1450 (145), 2450 (245) or AEDEcon 2005 (205). GE data only course. Cross-listed in IntStd.

3790 Economics of Crime

U 3

Investigates incentives and deterrents to criminal activity with respect to general economic conditions and analyzes the effectiveness of public policies designed to deter crime.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 479.

3820 The Economics of Gender in Labor Markets

U 3

Application of economic analysis to the evolution and economic condition of women and men in the labor force; occupational distribution and segregation; wage gap; the glass ceiling.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 482. GE diversity soc div in the US course.

3900.01S The Other Side of the Border: Immigration Economics

U 3

This is a service-learning opportunity with Esperanza International in Tijuana, Mexico. The course will introduce micro and macroeconomic issues related to immigration. This case study will focus on the opportunity costs for immigrants, the effects of the flow of money, and the loss of labor and human capital on economic growth. Students will work with the immigrant community.

Prereq: 2001.01, 2001.02, 2002.01 or 2002.02, or AEDEcon 2001. GE service learning course.

4001.01 Intermediate Microeconomic Theory

U 3

Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 4001.02 or 4001.03 (501.01 or 501.02).

4001.02 Intermediate Microeconomic Theory

U 3

Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium. Designates a calculus-based version.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), and Math 1131 (132), 1151 (151), 1152 (152 and 153), 1161 (161 and 162), 2182H (263H), or 4181H (190H) or equiv; or permission of instructor. Not open to students with credit for 4001.01 (501.01 and 501.02) or 4001.03H.

4001.03 Intermediate Microeconomic Theory

U 3

Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium. Designates an advanced calculus-based version.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), and Math 1131 (132), 1151 (151), 1152 (152 and 153), 1161 (162 and 161), 2182H (263H), or 4181H (H190), or equiv, or permission of instructor. Not open to students with credit for 4001.01 (501.01) or 4001.02 (501.02).

4002.01 Intermediate Macroeconomic Theory

U 3

Analysis of the determinants of national output; income and employment levels; theory of economic growth and progressive equilibrium in an economy.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201 or 201H), or 2002.03H, or equiv. Not open to students with credit for 4002.02 (502.01 or 502.02) or 4002.03.

4002.02 Intermediate Macroeconomic Theory

U 3

Analysis of the determinants of national output; income and employment levels; theory of economic growth and progressive equilibrium in an economy. Designates a calculus-based version.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), and Math 1131 (132) or 1151 (151), 1152 (152 and 153), 1161 (161 and 162), 2182H (263H), or 4181H (190H), or equiv; or permission of instructor. Not open to students with credit for 4002.01 (502.01 or 502.02) or 4002.03.

4002.03 Intermediate Macroeconomic Theory

U 3

Analysis of the determinants of national output; income and employment levels; theory of economic growth and progressive equilibrium in an economy. Designates an advanced calculus-based version.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), and Math 1152 (152 and 153), 1161 (161 and 162), 2182H (263H), or 4181H (190H), or equiv; or permission of instructor. Not open to students with credit for 4002.01 (502.01) or 4002.02 (502.02).

4050 Experimental Economics

U 3

Introduction to economics as an experimental social science. Students participate in and study results of economic experiments dealing with markets, individual decision making, and a broad array of game theoretic economic models.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H) or equiv. Not open to students with credit for 505.

4050H Experimental Economics
U 3

Introduction to economics as an experimental social science. Students participate in and study results of economic experiments dealing with markets, individual decision making, and a broad array of game theoretic economic models.

Prereq: 4001.01 (501.01), 4001.02 (501.02) or 4001.03, and Stat 1450 or 2450. Not open to students with credit for 4050 (505).

4130 World Economic Development in Historical Perspective
U 3

A survey of economic development from the middle ages through the 20th century, emphasizing Europe, Asia and Africa.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or 2002.01, 2002.02 (201) or 2002.03H (201H), or equiv. Not open to students with credit for 5130 (614), or 515. GE historical study and diversity global studies course.

4140 Economic History of the Americas
U 3

A survey of economic development in the Americas emphasizing the United States from colonial times to the 20th century.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 5140 (613) or 516. GE historical study and diversity global studies course.

4191 Internship
U 1 - 6

Allows students to apply knowledge from their economics courses and learn from hands on experience in approved positions. Applies toward an Econ 4000-level elective; 3 credit hours maximum toward major.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv; and Jr or Sr standing; and enrollment in Econ major; and permission of department. Not open to students with maximum qtr cr hrs in 589. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

4194 Group Studies
U 1 - 10

Intermediate current problems not covered in other courses.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H). Credit taken as 594 counts toward hour cap. Repeatable to a maximum of 10 cr hrs or 3 completions.

4200 Money and Banking
U 3

Organization, operation, and economic significance of our monetary and banking system; special reference to current conditions and problems. Students intending to take 5200 are encouraged to take it instead.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit 4200H (520H), 5200, or 520.

4300 Government Finance in the American Economy
U 3

Analysis of fiscal institutions and decision-making in the public sector of the American economy; budget planning and execution; taxation, debt, and fiscal policy.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 530.

4310 Local Public Finance
U 3

Financing public services by state/local governments. The fiscal relationship between state/local governments and the federal government. Apply techniques of economic analysis to policy issues.

Prereq: 4300 (530), or PubAfrs 7120 (730), or equiv. Not open to students with credit for 531, or PubAfrs 4310 (531). Cross-listed in PubAfrs.

4320 Public Expenditure and Cost-Benefit Analysis
U 3

Economics of public choice, public goods, non-market allocations, collective decision-making, and net-benefit maximization for policy majors; case studies and empirical analysis of public choice problems for policy analysts. Does not count towards units in the economics major.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv, and enrollment in JGSPA major. Not open to students with credit for 4300, 4310, or 532.

4400 Elementary Econometrics
U 3

Basic linear regression analysis with applications; hypothesis testing and model specification. Prereq: 3400, IntSids 3400, Stat 1430 (133), 1450 (145), 2450 (245), or AEDEcon 2005 (205), or equiv. Not open to students with credit for 5410 (641), 5420 (642), or 444.

4500 Economic Development
U 3

Empirical and theoretical consideration of long-term economic changes, including changes in industrial structure, technology, and level of national product; emphasis on developing economies.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 550.

4537 Middle Eastern Economic Development
U 3

Introduction to current economic issues facing the Middle East; similarities and differences in Middle Eastern countries' growth, inflation, unemployment, fiscal and monetary policy, imports, exports, foreign debt and exchange rate policy.

Prereq: 2001.01, 2001.02 (200), 2001.03H (200H), or AEDEcon 2001 (200), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 537, AEDEcon 4537 (537), 437, IntSids 4537 (537), or 437. Cross-listed in AEDEcon and IntSds.

4553 Economics of Population
U 3

Using economic principles to analyze population growth, fertility, mortality, mating, dating, marriage, teen pregnancy, divorce, and migration.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or 2002.01, 2002.02 (201), or 2002.03H (201H). Not open to students with credit for 553.

4560 Cooperation and Conflict in the Global Economy
U 3

The economic, social, and political bases for and responses to increasing global economic integration.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 4560H (556H), 556, IntSds 4560 (556), or 4560H (556H). Cross-listed in IntSds.

4597.01 Issues of the Underground Economy
U 3

Focuses on the informal sector of the underground economy: illegal drugs, arms sales and human trafficking. Applies economic reasoning. Recommended prereqs: 2001.01, 2001.02 (200), 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H).

Prereq: Jr standing and above. Not open to students with credit for 597.01. GE cross-disciplinary seminar course.

4700 Government and Business
U 3

Economic and legal aspects of government regulation of business in the United States; philosophies and concepts of public control; contemporary problems. Students planning on taking 5700 are encouraged to take it instead.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 5700 (670), or 570.

4700H Government and Business
U 3

Economic and legal aspects of government regulation of business in the United States: philosophies and concepts of public control; contemporary problems.

Prereq: Honors standing, and 2001.01, 2001.02, 2001.03H, 4001.01, 4001.02 or 4001.03, and Math 1151. Not open to students with credit for 4700 (570) or 5700 (670).

4797 Study at a Foreign Institution
U 1 - 10

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

Prereq: Permission of dept chairperson. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is progress graded (S/U).

4800 Labor Economics and Industrial Relations
U 3

Survey of the field of labor economics; trade unionism, collective bargaining; wage determination, employment, unemployment; labor legislation. Students planning on taking 5850 are encouraged to take it instead.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 5850 (685) or 580.

4830 Economics of Sports
U 3

Analysis of economic and business aspects of sports teams and their strategic interactions in sports markets.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 583.

4831 Sports Data Analytics and Economic Analysis
U 3

An introduction to basic data analysis methods used by economists to explain economic reasoning in the sport industry and associated markets.

Prereq: 2001.01, 2001.02, 2001.03H, AEDEcon 2001, or 2001H.

4960H Honors Seminar in Economics
U 3

Prepares students to write an undergraduate thesis; group discussion of research problems, methods, and strategies.

Prereq: Honors standing, and 4001.01 (501.01), 4001.02 (501.02), or 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03; or permission of instructor. Not open to students with credit for 596H.

4998 Undergraduate Research in Economics
U 1 - 6

Directed research for an Economics major; collection and analysis of data and information for a research project.

Prereq: 4001.01 (501.01), 4001.02 (501.02), or 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03, or equiv, and permission of instructor. Not open to students with credit for 4998H or 699. This course is graded S/U.

4998H Honors Research in Economics
U 1 - 6

Directed research for an economics major; collection and analysis of data and information for a research project.

Prereq: Honors standing; and 4001.01 (501.01), 4001.02 (501.02), or 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03, or equiv; and permission of instructor. Not open to students with greater than 9 cr hrs in 4998 or max credit in 699. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U.

136 Economics

4999 Undergraduate Thesis Research	U 1 - 5	
A program of study arranged for each student, with individual conferences and reports, to write a senior thesis. At least two semesters are required of candidates for the degree with distinction in economics.		
Prereq: At least half of the Econ courses taken and an average of B in the remainder, and Sr standing, and permission of instructor. Not open to students with greater than 9 hours credit for 4999H (699) or max credit in 783H. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
4999H Honors Thesis Research	U 1 - 5	
A program of study arranged for each student, with individual conferences and reports, to write a senior thesis. At least 2 sems required for distinction in econ. Failure to receive a mark of S in this course is a disqualification for special honors.		
Prereq: Honors standing, and a grade of A in at least half of the Econ courses taken, and an average of B in the remainder, and Sr standing, and permission of instructor. Not open to students with credit for 4999 (783H). Credit in 783H counts toward hour cap. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
5001 Game Theory in Economics	U G 3	
Analysis of behavior in strategic situations - when a person or firm's best action depends on what others do.		
Prereq: 4001.01 (501.01), 4001.02 (501.02), or 4001.03, and Math 1131 (132), 1151 (151 and 152), 1152 (153), 1161 (161 and 162), or 2182H (263H), or equiv. Not open to students with credit for 601.		
5130 Economic History of Western Europe	U G 4	
Survey of economic development of Europe from pre-industrialization to current globalization. Emphasis on critical analysis of long-run factors in economic growth.		
Prereq: 4400 (444), 5410 (641), or Stat 2450 (245), and Econ 4001.01 (501.01), 4001.02 (502.02), or 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03, or equiv; or Grad standing. Not open to students with credit for 614.		
5140 Economic History of the United States	U G 4	
General survey from discovery of America to present; European economic background; westward movement and its effects; development of economic institutions in the United States.		
Prereq: 4400 (444), 5410 (641), 4001.01 (501.01), 4001.02 (502.02), 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03, or Stat 2450 (245), or equiv; or Grad standing. Not open to students with credit for 613.		
5150 Economic Transitions in the 20th Century	U G 4	
General survey of economic aspects of developing economies. Transitions from central planning to markets and from underdevelopment to industrialization in the twentieth century are emphasized.		
Prereq: 4400 (444), 5410 (641), or Stat 2450 (245), and 4001.01 (501.01), or 4001.02 (501.02), or 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03 or equiv; or permission of instructor. Not open to students with credit for 615.		
5193 Individual Studies	U G 1 - 10	
Advanced readings in economics and related fields.		
Prereq: Jr standing or higher; and an average of B or better in all econ courses; and a CPHR of 3.00 or above. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
5194 Group Studies	U G 1 - 5	
Advanced current problems not covered in other courses.		
Prereq: 4001.01 (501.01), 4001.02 (501.02), or 4001.03, or equiv. Repeatable to a maximum of 10 cr hrs or 10 completions.		
5250 National and International Money Markets	U G 3	
Organization, functions, and control of money markets and their submarkets; flow of funds in these markets and investment policies of market participants.		
Prereq: 4400 (444), or 5410 (641), and 4001.01 (501.01), 4001.02 (501.02), or 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.3, or Stat 2450 (245), or equiv. Not open to students with credit for 625.		
5261 Financial Economics I	U G 3	
Examination of the evolution of and economic issues facing financial markets, financial institutions, and financial market participants. Does not count as course credit towards the completion of a business major.		
Prereq: 4001.01, 4001.02, or 4001.03, and 4002.01, 4002.02, or 4002.03, and Math 1151, 1152, 1161, or 2182H, or equiv.; or Grad standing.		
5262 Financial Economics II	U G 3	
Examination of academic literature and econometric analysis of topics involving financial markets, financial institutions, and financial market participants. Does not count as course credit towards the completion of a business major.		
Prereq: 4001.01, 4001.02, or 4001.03, and 4002.01, 4002.02, or 4002.03, and 5261, and Math 1151, 1152, 1161, or 2182H, or equiv.; or Grad standing.		
5410 Econometrics I	U G 3	
The general linear regression model; multiple correlation, path analysis, analysis of variance and tests of significance; specification errors.		
Prereq: 4001.01 (501.01), 4001.02 (501.02), or 4001.03, and Stat 2450 (245), 4201, 4202 (420, 421), or 3470 (427, 428), or equiv. Not open to students with credit for 641, 444, or 4400.		
5420 Econometrics II	U G 3	
Discrete choice models, panel data, endogeneity, instrumental variables, and systems of equations; stationary and nonstationary time series; applications in various fields of economics. Continuation of 5410.		
Prereq: 5410 (641) and 4002.01, 4002.02 (502.01), or 4002.03 (502.02), or PubAfrs 7571, or equiv. Not open to students with credit for 642.		
5650 International Commodity Flows: Theory and Policy	U G 3	
Comparative advantage and the gains from trade; tariffs and other trade restrictions; economic effects of protective policies; U.S. commercial policies; regional economic integration.		
Prereq: 4001.01 (501.01), 4002.01 (502.01), 4001.02 (501.02), 4002.02 (502.02), 4001.03, or 4002.03; and 4400 (444), 5410 (641), or Stat 2450 (245) or equivs. Not open to students with credit for 665.		
5660 Financial Aspects of International Trade	U G 3	
International payments and receipts; foreign exchange markets; balance-of-payments adjustment under different monetary systems; macroeconomic policy; international monetary reforms; foreign investments; multinational corporations.		
Prereq: 4400 (444), 5410 (641), or Stat 2450 (245), and 4002.01 (502.01), 4002.02 (502.02), or 4002.03, or equiv. Not open to students with credit for 666.		
5700 Industrial Organization	U G 3	
Nature, role, and regulation of competition; market structure and social performance; antitrust laws; current economic, legal, and policy problems in the antitrust area.		
Prereq: 4400 (444), 5410 (641), or Stat 2450 (245), and 4001.01 (501.01), 4001.02 (501.02), or 4001.03, or equiv; or Grad standing. Not open to students with credit for 670.		
5720 Comparative Institutional Analysis of Firms and Markets	U G 3	
Applications of economic analysis to industrial organizations including the firm's internal incentive structure, labor markets, and financial institutions, of major market economies such as U.S., and Japan from comparative perspectives.		
Prereq: 4001.01 (501.01), 4001.02 (501.02), or 4001.03, or equiv, or Grad standing. Not open to students with credit for 672.		
5850 Labor Economics	U G 3	
Advanced study of the labor market including labor demand and supply, wage determination, and unemployment.		
Prereq: 4400 (444), 5410 (641), or Stat 2450 (245); and 4001.01 (501.01), 4001.02 (501.02), or 4001.03, or equiv. Not open to students with credit for 685.		
5860 Health Economics	U G 3	
An introductory course to the field of health economics. Students will apply concepts from introductory and intermediate microeconomics to problems that are faced in health and medical care. The focus is on individual demand for medical care; health insurance; markets for, and institutional features of, health care providers; measuring and pricing quality, and healthcare reform.		
Prereq: 4001.01, 4001.02, or 4001.03. Prereq or concur: Stat 1450 or 2450.		
5870 Neuroeconomics and Decision Neuroscience	U G 3	
The focus of this course will be on the psychology and neuroscience underlying economic behavior. Discussion will cover various domains of economic decision making and what Neuroeconomics has taught us about them.		
Prereq: AEDEcon 2005, Stat 1450, 2450, Psych 2220, or Econ 3400; and Math 1148 or higher; and Econ 4001.01, 4001.02, 4001.03, AEDEcon 4001, Psych 3313, 3513, or 4508. Not open to students with credit for Psych 5870. Cross-listed in Psych.		
6193 Individual Studies	G 1 - 4	
Supervised and individually designed studies for pre-qualifier graduate students in economics or graduate students in non-economics graduate programs.		
Prereq: Permission of instructor. Not open to students with credit for 893. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U. Letter Grade option available only with approval of economics director of graduate studies.		
6700 Survey of Mathematical Methods in Economics	G 3	
Core analytical methods and techniques routinely used in the first-year graduate courses in economic theory; topics include basic real analysis, convexity, constrained optimization, envelope theorems and their economics applications.		
Prereq: 4001.01, 4001.02, 4001.03, or 501A and graduate mathematics courses in vector calculus and elementary linear algebra. Not open to students with credit for 704, or 705.		
6701 Survey of Statistical Methods in Economics	G 3	
Probability and statistical methods frequently used in economic analysis; topics include random variables, moment generating functions, limit theorems, expectations, multiple correlations, tests of significance and their economic applications.		
Prereq: Math 1152 (153), or equiv; or permission of instructor and economics director of graduate studies. Not open to students with credit for Stat 5201 (520), or 6801 (620), or 640, or 720.		
6711 Survey of Microeconomics	G 4	
Methodology and scope of the neo-classical microeconomics paradigm; topics include the theory of competitive firms and consumers, general equilibrium, Pareto optimum, welfare theorems, non-competitive markets, uncertainty and asymmetric information.		
Prereq: 4001.01 or 501A, or equiv, and permission of economics director of graduate studies. Not open to students with credit for 8711 (804), 8712 (805), 704, or 705.		

6721 Survey of Macroeconomics	G 4	8193 Individual Studies	G 1 - 4
Survey of macroeconomics fluctuations, business cycles and economic growth, including Keynesian, monetarist and real business cycle models; topics also include money and banking, unemployment, inflation and endogenous economic growth.		Supervised and individually specialized studies for PhD students who have finished regular course work in their economics PhD program. Letter grade option available only with approval of economics director of graduate studies.	
Prereq: 4002.01 (502) or equiv with permission of instructor and economics director of graduate studies. Not open to students with credit for 8721 (806), or 8722 (807) or 706, or 707.		Prereq: Permission of instructor. Repeatable to a maximum of 44 cr hrs. This course is graded S/U.	
6731 Survey of Econometric Methods I	G 3	8194 Group Studies	G 1 - 4
Survey of methods as applied in econometric analysis, with applications to programming in R. Topics include data management and visualization, linear regression, causal inference, fixed/random effects, nonparametric analysis, and nonlinear models.		Advanced new course material in economics offered to complement existing PhD courses.	
Prereq: 4400 or 5410 or Stat 2450, and Math 2568 or equiv.; or permission of instructor. Not open to students with credit for 8731, 8732, or 8733.		Prereq: Grad standing in Econ or related field, and permission of instructor and Grad studies director for Econ. Not open to students with credit for 894. Repeatable to a maximum of 44 cr hrs or 11 completions.	
6732 Survey of Econometric Methods II	G 3	8711 Microeconomic Theory IA	G 3
Survey of econometric methods in time series and panel data with an emphasis on empirical examples in micro and macro economics; topics include GMM, time series models, VAR, cointegration, fixed and random effects and duration models.		Rigorous survey of the neoclassical paradigm dealing with individual economic agents, firms and markets; covers core concepts and methods such as equilibrium, optimality, duality, comparative statics and envelope theorems.	
Prereq: 6731 (702), or equiv with permission of instructor and economics director of grad studies. Not open to students with credit for 8731 (740), or 8732 (741), or 8733 (742), or 703.		Prereq: Grad standing in Econ, or related discipline with permission of Economics Director of Grad Studies. Not open to students with credit for 804.	
6745 Contemporary Political Economy	G 3	8712 Microeconomic Theory IB	G 3
Survey of contemporary theories on the interactions between economic policies, domestic institutions and the international economy, and their consequences for political economy.		Continuation and extension of Microeconomic Theory 1A to study competitive general equilibrium, optimality and welfare theorems; includes analysis of individual agents' behavior under uncertainty and markets subject to asymmetric information.	
Prereq: Grad standing or permission of instructor. Not open to students with 6 or hrs for 6745 and PolitSc, or 10 cr hrs for 735 and PolitSc 735. Repeatable to a maximum of 6 cr hrs. Cross-listed in PolitSc 7280.		Prereq: 8711 (804), or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 805.	
7191 Internship in Professional Economics I	G 0 - 1	8713 Microeconomic Theory IIA	G 3
Practicum for economics graduate students who have completed the core curriculum in microeconomics, macroeconomics and econometrics to apply economic analysis on tasks and problems in an empirical economy or economic organizations.		Rigorous introduction to game theoretic methods and concepts and their applications to study strategic interactions in economic organizations, including imperfectly competitive markets and economies with public goods and externalities.	
Prereq: Satisfactory completion of the first-year Ph.D. courses or equivalent with permission of Economics Director of Graduate Studies. Not open to students with credit for 901. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is graded S/U.		Prereq: 8711 (804) or 8712 (805), or equiv, and permission of economics director of grad studies. Not open to students with credit for 808.	
7193 Individual Studies	G 1 - 4	8714 Microeconomic Theory IIB	G 3
Supervised and individually designed readings in economics for postqualifier students in economics or graduate students in noneconomic graduate programs.		A theoretical treatment of information economics and mechanism design; topics include implementation, dominant strategy mechanism, Bayesian mechanism design, adverse selection, moral hazard, social choice and auctions.	
Prereq: Open to students who completed the first-year graduate PhD core course curriculum and with permission of instructor. Not open to students with credit for 893. Repeatable to a maximum of 2 cr hrs or 5 completions. This course is graded S/U. Letter Grade option available only with approval of economics director of graduate studies.		Prereq: 8713 (805), or equiv, and permission of Economics Director of Graduate Studies. Not open to students with credit for 808.	
7194 Group Studies	G 1 - 4	8721 Macroeconomic Theory IA	G 3
Lecture course of select topics designed to complement existing graduate courses in economics.		A rigorous introduction to modern macroeconomic analysis and models of economic growth with emphasis on dynamic competitive equilibrium analysis: topics include dynamic programming applied to stochastic environments.	
Prereq: Grad standing in economics or related disciplines; permission of instructor and economics director of graduate studies. Not open to students with credit for 894. Repeatable to a maximum of 44 cr hrs or 11 completions. S/U option only available with approval of economics director of graduate studies.		Prereq: Grad standing, and permission of Economics Director of Grad Studies. Not open to students with credit for 806.	
7700 Mathematics for Economics I	G 3	8722 Macroeconomic Theory IB	G 3
Mathematical concepts and techniques used in advanced economic research; real analysis; metric spaces; topology; measure and integration; convexity; separation theorems; contraction mapping; fixed point theorems; applications.		Continuation of 8721 with recent developments in macro and monetary economics; topics include business cycles, endogenous growth, equilibrium unemployment and risk sharing in incomplete markets.	
Prereq: Permission of instructor and economics director of grad studies; primarily for PhD students in economics and related disciplines. Not open to students with credit for 700.		Prereq: 8721 (806), or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 807.	
7789 Survey Research Practicum	G 3	8723 Macroeconomic Theory IIA	G 3
Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey.		Continuation of Macroeconomic Theory IA-IB with emphasis on dynamic general equilibrium models with shocks and frictions and their empirical assessment.	
Prereq: Enrollment in Graduate Interdisciplinary Specialization program, or permission of program director. Not open to students with credit for Econ 789, AgrEduc 789, BusMktg 789, EduPL 789, Geog 789, JCom 789, PolitSc 789, Psych 789, PubHlth 789, PubPolM 789, Sociol 789, or Stat 789. Cross-listed in ADEcon, AgrEduc, BusMktg, EduPL, Geog, JCom, PolitSc, Psych, PubHlth, PubPolM, Sociol, and Stat.		Prereq: 8722 (806), or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 807 or 809.	
7790 Urban Economics	G 3	8724 Macroeconomic Theory IIB	G 3
Application of economic theory to analyze urban economies-- their spatial structure and issues such as residential segregation, government organization, public-good, transportation, sprawl, poverty, and housing.		Micro foundations of aggregate demand from the perspective of dynamic optimization; topics also include permanent income, lifetime portfolio choice, Q-theory of investment, consumption CAPM, term structure and long term risk.	
Prereq: 6711 (704, 705), or equiv. Not open to students with credit for 790.		Prereq: 8723, or 806 and 807, or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 809.	
8191 Internship in Professional Economics II	G 0 - 1	8731 Econometrics I	G 4
Practicum for advanced economics graduate students who have completed Ph.D. course requirements to apply economic analysis on tasks and problems in an empirical economy or economic organizations.		Probability; random variables; sampling distributions; limit theorems; point and interval estimation; statistical hypothesis testing; multiple regression analysis in the linear model including finite-sample and asymptotic statistical properties.	
Prereq: Satisfactory completion of the Ph.D. core and field courses or equivalent with permission of Economics Director of Grad Studies. Not open to students with credit for 901. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is graded S/U.		Prereq: 6700, 6701 (640), or Stat 5201 (521); or equiv with permission of economics director of grad studies. Not open to students with credit for 740, 741, and 742.	
8732 Econometrics II	G 4	8732 Econometrics II	G 4
Generalized least squares; specification tests; generalized method of moments; endogenous regressors and simultaneous equation systems; panel data; nonlinear estimation; discrete and limited dependent variable models; and basic time-series analysis.		Generalized least squares; specification tests; generalized method of moments; endogenous regressors and simultaneous equation systems; panel data; nonlinear estimation; discrete and limited dependent variable models; and basic time-series analysis.	
Prereq: 8731 or equiv with permission of economics director of grad studies. Not open to students with credit for 640, 740, 741, and 742.		Prereq: 8731 or equiv with permission of economics director of grad studies. Not open to students with credit for 640, 740, 741, and 742.	

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8733	Economics III	G	3			
Continuation of Economics 8731 and 8732 with an emphasis on applications of econometric theory and methods, including the use of advanced econometric software to various fields of economics.						
Prereq: Econ 8731 and 8732, or equiv with permission of instructor. Not open to students with credit for 640, 740, 741, and 742.						
8781.01	First Year Research Principles and Techniques in Core Microeconomics	G	1 - 3			
Group independent study of research principles and techniques for first-year PhD students in economics with focus on microeconomics.						
Prereq: 8714 (808), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8781.02	First Year Research Principles and Techniques in Core Macroeconomics	G	1 - 3			
Group independent study of research principles and techniques for first year PhD students in economics with focus on macroeconomics.						
Prereq: 8724 (809), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8781.03	First Year Research Principles and Techniques in Core Econometrics	G	1 - 3			
Group independent study of research principles and techniques for first year PhD students in economics with focus on econometrics.						
Prereq: 8732 (742), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8781.05	First Year Research Principles and Techniques in Economics	G	1 - 3			
Group independent study of research principles and techniques for first year PhD students in economics.						
Prereq: Grad standing in Economics, and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8782.01	Second Year Research Principles and Techniques in Economic Theory	G	1 - 3			
Group independent study-cum-workshop to facilitate integrative reviews of concepts and techniques in major themes of economic theory, to prepare for field exams/papers, and to develop research perspectives.						
Prereq: 8816 (815), 8817 (817), or 8818 (818), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8782.02	Second Year Research Principles and Techniques in Macroeconomics	G	1 - 3			
Group independent study designed to integrate and reinforce field knowledge and methods in macro-monetary economics and to develop research topics.						
Prereq: 8821 (810), 8822 (811), or 8823 (820), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8782.03	Second Year Research Principles and Techniques in Econometrics	G	1 - 3			
Group independent study designed to integrate and reinforce field knowledge and methods in econometrics and to develop research topics.						
Prereq: 8830 (840), 8831 (841), or 8832 (842), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8782.04	Second Year Research Principles and Techniques in Public and Urban Economics	G	1 - 3			
Group independent study designed to integrate and reinforce field knowledge and methods in public and urban economics and to develop research topics.						
Prereq: 7790 (790), 8841 (830), or 8842 (832), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8782.05	Second Year Research Principles and Techniques in Labor Economics	G	1 - 3			
Group independent study designed to integrate and reinforce field knowledge and methods in labor economics and to develop research topics.						
Prereq: 8851 (883), 8852 (884), or 8853 (981), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8782.06	Second Year Research Principles and Techniques in International Economics	G	1 - 3			
Group independent study designed to integrate and reinforce field knowledge and methods in international economics and to develop research topics.						
Prereq: 8861 (861), 8862 (862), or 8863 (863), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8782.07	Second Year Research Principles and Techniques in Industrial Organization	G	1 - 3			
Group independent study designed to integrate and reinforce field knowledge and methods in industrial organization and to develop research topics.						
Prereq: 8871 (871), 8872 (872), or 8873 (970), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8782.08	Second Year Research Principles and Techniques in Economic History	G	1 - 3			
Group independent study designed to integrate and reinforce field knowledge and methods in economic history and to develop research topics.						
Prereq: 5130 (614), 5140 (613), or 5150 (615), and permission of instructor and economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8782.09	Second Year Research Principles and Techniques in Experimental Economics	G	1 - 3			
Group independent study designed to integrate and reinforce field knowledge and methods in experimental and behavioral economics and to develop research topics.						
Prereq: 8873 (970) or 8875, and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8782.10	Second Year Research Principles and Techniques in Growth and Development Economics	G	1 - 3			
Group independent study designed to integrate and reinforce field knowledge and methods in growth and development economics and to develop research topics.						
Prereq: 8863 (863), and a field course approved by economics director of graduate studies, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8782.20	Second Year Research Principles and Techniques in Economics	G	1 - 3			
Group independent study designed to integrate and reinforce knowledge and methods acquired in advanced field courses, and to develop research topics.						
Prereq: Major field courses approved by economics director of graduate studies, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.						
8783.01	Advanced Research Principles and Techniques in Economic Theory	G	1 - 3			
Group independent study to prepare students for original research and innovation in the field of advanced economic theory. Open to students who have completed field courses approved by economics director of graduate studies.						
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.						
8783.02	Advanced Research Principles and Techniques in Macroeconomics	G	1 - 3			
Group independent study to prepare students for original research and innovation in the field of macroeconomics. Open to students who have completed field courses approved by economics director of graduate studies.						
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.						
8783.03	Advanced Research Principles and Techniques in Econometrics	G	1 - 3			
Group independent study to prepare students for original research and innovation in the field of econometrics. Open to students who have completed field courses approved by economics director of graduate studies.						
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.						
8783.04	Advanced Research Principles and Techniques in Public and Urban Economics	G	1 - 3			
Group independent study to prepare students for original research and innovation in the field of public and urban economics. Open to students who have completed field courses approved by economics director of graduate studies.						
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.						
8783.05	Advanced Research Principles and Techniques in Labor Economics	G	1 - 3			
Group independent study to prepare students for original research and innovation in the field of labor economics. Open to students who have completed field courses approved by economics director of graduate studies.						
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.						
8783.06	Advanced Research Principles and Techniques in International Economics	G	1 - 3			
Group independent study to prepare students for original research and innovation in the field of international economics. Open to students who have completed field courses approved by economics director of graduate studies.						
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.						

8783.07 Advanced Research Principles and Techniques in Industrial Organization	G	1 - 3
Group independent study to prepare students for original research and innovation in the field of industrial organization. Open to students who have completed field courses approved by economics director of graduate studies.		
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.		
8783.08 Advanced Research Principles and Techniques in Economic History	G	1 - 3
Group independent study to prepare students for original research and innovation in the field of economic history. Open to students who have completed field courses approved by economics director of graduate studies.		
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.		
8783.09 Advanced Research Principles and Techniques in Experimental Economics	G	1 - 3
Group independent study to prepare students for original research and innovation in the field of experimental and behavioral economics. Open to students who have completed field courses approved by economics director of graduate studies.		
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.		
8783.10 Advanced Research Principles and Techniques in Growth and Development Economics	G	1 - 3
Group independent study to prepare students for original research and innovation in the field of growth and development economics. Open to students who have completed field courses approved by economics director of graduate studies.		
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.		
8783.20 Advanced Research Principles and Techniques in Economics	G	1 - 3
Group independent study to prepare students for original research and innovation in economics. Open to students who have completed field courses approved by economics director of graduate studies.		
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.		
8816 Advanced Economic Theory I	G	3
A topic-driven course in advanced microeconomic theory, game theory and decision theory, and their theoretical applications with emphasis on important recent results.		
Prereq: 8714 (808), or equiv with permission of instructor. Not open to students with credit for 815.		
8817 Advanced Economic Theory II	G	3
Thorough treatment of major developments in game theory and a survey of major applied game theory topics such as mechanism design, bargaining, and oligopoly.		
Prereq: 8714 (808) or equiv with permission of instructor. Not open to students with credit for 817.		
8818 Advanced Economic Theory III	G	3
Theoretical approaches to economics of information; how information affects individual behavior and market equilibrium; moral hazard; adverse selection; incomplete contracts; rational expectations; and principal-agency models.		
Prereq: 8714 (808), or equiv with permission of instructor. Not open to students with credit for 818.		
8819 Economics of Uncertainty	G	3
Classical and modern approaches to decision-making and economic behavior under uncertainty; classical expected utility; subjective probability; behavioral theory of economic choice under uncertainty. S/U option available only with permission of Grad studies director for Econ.		
Prereq: 8714 (808) or equiv, or permission of instructor. Not open to students with credit for 819.		
8821 Advanced Macroeconomics I	G	3
Recent contributions to macro-monetary economics in theoretical, empirical and policy areas; topics include computational methods, econometric techniques, dynamic modeling and empirical assessment.		
Prereq: 8724 (809), or permission of instructor. Not open to students with credit for 810.		
8822 Advanced Macroeconomics II	G	3
Studies roles of preferences, technology, endowments, and market structures to determine the behavior of aggregate variables. Topics include: dynamic stochastic general equilibrium, rational expectations, business cycles, and propagation mechanisms.		
Prereq: 8732 (742), or 8724 (809), or permission of instructor. Not open to students with credit for 811.		
8823 Advanced Macroeconomics III	G	3
Studies the macroeconomic implications of discrete decisions by heterogeneous agents and assesses quantitative DSGE models. Topics include: lumpy adjustments, non-convex adjustment costs, and the interactions of real and financial frictions.		
Prereq: 724, or 809, or permission of instructor. Not open to students with credit for 820.		

8824 Monetary Economics	G	3
Develops monetary economics as a research field and covers a range of topics in the theoretical, empirical, and policy aspects of money, credit, and banking. S/U grade option available only with permission of Grad studies director for Econ.		
Prereq: 724 or 809, or permission of instructor. Not open to students with credit for 821.		
8825 Advanced Macroeconomic Methods	G	3
Develops numerical methods for dynamic stochastic general equilibrium models with heterogeneity and non-convexities. Applications include: models of households with uninsurable risk and borrowing constraints, and firms with adjustment costs.		
Prereq: Not open to students with credit for 816.		
8831 Advanced Econometrics II	G	3
Selected advanced topics in econometrics - such as nonparametric and semiparametric estimation, numerical optimization, simulation methods - including Markov chain Monte Carlo methods and duration models used in economics.		
Prereq: 8732 (742) or equiv with permission of instructor. Not open to students with credit for 841.		
8832 Advanced Econometrics III	G	3
Theory and applications of advanced econometric methods with emphasis on parameter estimation and testing in nonlinear models. Topics include: large sample theory, extremum estimators, likelihood approach, and the GMM framework.		
Prereq: 8732 (742) or equiv with permission of instructor. Not open to students with credit for 842.		
8833 Micro Econometrics	G	3
Recent advances in micro econometrics, covering both theoretical and applied areas, with emphasis varying with instructor's research interest such as spatial econometrics and social interaction models.		
Prereq: Econ 8732 (742), Econ 8831 (841), and Econ 8832 (842), or equiv, or permission of instructor. Not open to students with credit for 843. Repeatable to a maximum of 12 cr hrs.		
8834 Advanced Time Series Econometrics	G	3
Rigorous treatment of time-series analysis using recent techniques and concepts. Major topics: stationary and nonstationary time series, cointegration and their economic applications. Course topics will vary with instructor's research interest. 8830 (840) is recommended.		
Prereq: 732, or 734, or equiv with permission of instructor. Not open to students with credit for 844. Repeatable to a maximum of 12 cr hrs.		
8851 Labor Economics I	G	3
Theoretical and empirical methods used to understand life-cycles and interpersonal variations in earnings. Topics include: human capital, job-market signaling, matching, schooling, and mobility.		
Prereq: 8712 (804, 805), and 8731 (741), or equiv with permission of instructor. Not open to students with credit for 883.		
8852 Labor Economics II	G	3
Theories and empirical analysis of the demand for labor and changes in the wage structure over time; the determinants of youth outcomes and behaviors including the effect of family and peer groups.		
Prereq: 8712 (804, 805) , and 8731 (741), or equiv with permission of instructor; 8851 (883) recommended. Not open to students with credit for 884.		
8853 Labor Economics III	G	3
An examination of models and methods used to study household labor supply behavior. Topics include: retirement, the determinants of child outcomes, and demographic behavior. 8852 (884) is recommended.		
Prereq: 8851 (883). Not open to students with credit for 981.		
8856 Health Economics	G	3
This course covers major research topics in health care and individual economics decisions related to health, structure of health care and insurance markets, and government policies. The course also provides a survey of data resources available to researchers in health economics, and the methodology of measurement and valuation of healthcare market performance and quality of healthcare providers.		
Prereq: 8712 and 8731; or permission of instructor.		
8861 International Economics I	G	3
Theory and empirics of the determinants of trade, analysis of comparative advantage, trade patterns, gains from trade, commercial policies on resource allocations, income distribution and growth.		
Prereq: 8712 (804, 805). Not open to students with credit for 861.		
8862 International Economics II	G	3
Theory and empirics of international macroeconomics. Topics include: open-economy business cycles, determinants of exchange rates, international capital flows and resource allocations, financial constraints, and computational and estimation methods.		
Prereq: 8712 (804, 805) 8722 (806, 807); and 8861 (861) recommended. Not open to students with credit for 862.		
8863 International Economics III	G	3
Evolution of world economy from theoretical and empirical perspectives; trade; growth and development; international capital markets; financial crises and sovereign default; international business cycle transmissions.		
Prereq: 8712 (804, 805), and 8722 (806, 807); and 8862 (862) recommended. Not open to students with credit for 863.		

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8871 Industrial Organization I	G	3	8894.02 Workshop in Applied Microeconomics	G	1 - 2	
A survey of theoretical concepts used to analyze industry structure, firm conduct, market performance and related issues of public policy; topics include recent developments in the theory of the firm as well as models of competition and rivalry. Prereq: 8713 (805, 808). Not open to students with credit for 871.			Forum to report and discuss the latest research results by graduate students, faculty members and outside speakers in applied microeconomics fields. Prereq: 8714 (808), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded S/U.			
8872 Industrial Organization II	G	3	8894.03 Colloquium in Applied Microeconomics	G	1 - 3	
A survey of empirical methods used to analyze industry structure, firm conduct, market performance and related issues of public policy. Prereq: 8871 (871), and 8732 (742); or permission of instructor. Not open to students with credit for 872.			A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in applied microeconomics and related fields. Prereq: Completion of Ph.D. field courses approved by economics director of graduate studies, and permission of instructor and economics director of graduate studies. Repeatable to a maximum of 16 cr hrs or 8 completions.			
8873 Industrial Organization III: Economic Analysis of Auctions	G	3	8999 Dissertation Research	G	1 - 3	
A survey of auction theory, experiments, and empirics; topics include private and common value auctions, multi-unit demand auctions, sequential and simultaneous auctions, and related research material. Prereq: 8714 (808), or equiv, and permission of instructor.			Dissertation research in economics. Prereq: Doctoral candidate in Economics. Repeatable to a maximum of 60 cr hrs or 20 completions. This course is graded S/U.			
8875 Experimental & Behavioral Economics	G	3	Education and Human Ecology			
A survey of concepts and methods in experimental and behavioral economics for advanced graduate students; topics include impacts of heuristics and biases on "rational" behavior, other-regarding preferences, bargaining, public goods and market design. 8873 (970) recommended. Prereq: 8714 (808), 804, or 805, or equiv, or permission of instructor.			1100 Introduction to Education & Human Ecology and Degree Planning	U	1	
8891.01 Economic Theory Seminar	G	1 - 3	Introduction to Education and Human Ecology degree programs, survey of university and college policies and procedures, and focus on degree planning. Prereq: Not open to students with credit for HumanEc 100 or EduPAES 100.			
Latest developments in advanced research in general economic theory, game theory and related fields. Prereq: 8714 (808), and permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.			1100H Introduction to Education & Human Ecology and Degree Planning	U	1	
8891.02 Workshop in Economic Theory	G	1 - 2	Introduction to Education and Human Ecology degree programs, survey of university and college policies and procedures, focus on degree planning, establishment of Honors requirements, and development of Honors contracts. Prereq: Honors standing. Not open to students with credit for HumanEc 100 or EduPAES 100.			
Forum to report and discuss the latest research results by graduate students, faculty members, and outside speakers in general economic and game theory. Prereq: 8714 (808), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded S/U.			2194 Group Studies	U	1 - 5	
8891.03 Colloquium in Economic Theory	G	1 - 3	Study of special or interdisciplinary topics at an introductory level. Repeatable to a maximum of 15 cr hrs or 15 completions.			
A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in advanced theory and related fields. Open to students who have completed PhD field courses approved by economics director of graduate studies. Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 16 cr hrs or 8 completions.			2788H Education and Human Ecology Undergraduate Honors Seminar	U	1	
8892.01 Macroeconomics Seminar	G	1 - 3	Seminar for sophomores and juniors in the Education and Human Ecology undergraduate honors program. Students will explore research topics, and learn about the process of completing a scholarly research project. Prereq: Honors standing, and Soph or Jr standing, and enrollment in EHE major or pre-major.			
Latest developments in advanced research in macro-monetary economics and related fields. Prereq: 8724 (809), and permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.			2990 Professional Career Development	U	1	
8892.02 Workshop in Macroeconomics	G	1 - 2	Job Search strategies for students including: Self-assessment, goal setting, job research, communication and correspondence, resumes, interviewing, portfolios and life after college. This course will not count for credit in any EHE major. Elective credit only. Prereq: Soph standing, and pre-majors and/or majors in College of Education and Human Ecology. Not open to students with credit for ConSci 2990, HDFS 3800, or EduPAES 2270.04. This course is graded S/U.			
Forum to report and discuss the latest research results by graduate students, faculty members and outside speakers in macro-monetary economics and related fields. Prereq: Econ 8724 (809), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded S/U.			3100 Paraprofessional Skill Development for EHE Peer Mentors	U	1	
8892.03 Colloquium in Macroeconomics	G	1 - 3	This course provides a framework for undergraduate students to work effectively with their peers. The development of communication, public speaking, decision-making, and referral skills is stressed. Current issues in higher education are also explored. This course is limited to participants in the EHE Peer Mentor program. Prereq: Permission of instructor or department. Repeatable to a maximum of 3 cr hrs.			
A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in macroeconomics and related fields. Open to students who have completed PhD field courses. Repeatable to a maximum of 16 cr hrs or 8 completions.			3191 Internships in Education and Human Ecology	U	0 - 1	
8893.01 Econometrics Seminar	G	1 - 3	Fourteen week practical experience or equivalent in an approved organization related to student's major interest. This general internship option is for experiences that do not fit program specific EHE Internships. This course will not count for credit in any EHE major. Elective credit only. Prereq: CPHR 2.0 or above, and pre-major and/or major in Education and Human Ecology, and permission of instructor. Not open to students with credit for ConSci 3191 and 4191, or HDFS 2189, 3189.01, 3189.02, 3189.03, 3189.04, 3189.05, 3189.06, 3189.07, HumnNtr 4189, EduPAES 2189.21, 4189.05, 4489.05, 4191.20, 4191.21, 4191.40, 5191.23, or 6191. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.			
Latest developments in advanced research in econometrics and related fields. Prereq: 8732 (741 and 742), and permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions.			4194 Group Studies	U	1 - 3	
8893.02 Workshop in Econometrics	G	1 - 2	Group studies on special issues in education. Repeatable to a maximum of 12 cr hrs or 4 completions.			
Forum to report and discuss the latest research results by graduate students, faculty members and outside speakers in econometrics and related fields. Prereq: 8732 (741 and 742), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded S/U.			4998 Undergraduate Research in Education & Human Ecology	U	0 - 15	
8893.03 Colloquium in Econometrics	G	1 - 3	Undergraduate research or creative activities in variable topics. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.			
A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in econometrics. Prereq: Successful completion of micro and macro qualifiers, successful completion of two Ph.D. field requirements (econometrics recommended), and permission of instructor and economics director of graduate studies. Repeatable to a maximum of 16 cr hrs or 8 completions.			4998H Honors Undergraduate Thesis Research	U	0 - 15	
8894.01 Applied Microeconomics Seminar	G	1 - 3	Undergraduate research or creative activities in variable topics. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions. This course is graded S/U.			
Latest developments in advanced research in applied microeconomics fields. Prereq: 8714 (808), and permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions.						

5193 Individual Studies	U G	1 - 3
Individual study in the fields of education or human ecology. Prereq: Permission of instructor. This course is graded S/U.		
5797 Study at a Foreign Institution	U G	1 - 18
An opportunity for students to study at a foreign institution and receive OSU credit for work completed there. Students will pay OSU fees and any fees in excess of OSU tuition, as well as all travel and subsistence costs. Prereq: Permission of department chairperson. Repeatable to a maximum of 54 cr hrs or 3 completions.		
5892 Workshop	U G	1 - 5
Intensive study of a problem common to the participants for the purpose of developing sound principles and practices. Repeatable to a maximum of 20 cr hrs or 4 completions.		
8000 Responsible Conduct of Research (RCR)	G	1
Overview of the concepts and policies required for the Responsible Conduct of Research (RCR), with particular attention to federally funded research requirements. This course fulfills the NIH training requirement for research ethics. This is a condensed four-week course. Typically taught in session 1 of summer term. Prereq: Grad standing in the College of Education and Human Ecology, or permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.		
Education: Teaching and Learning		
1001 Beginning Intensive English as a Second Language	U	0
Intensive instruction in English as a second language for students at a beginning level of proficiency; listening, speaking, structure, reading, and writing. Prereq: Admission to American Language Program and permission of Director. Repeatable to a maximum of 2 completions. This course is graded S/U.		
1002 Elementary Intensive English as a Second Language	U	0
Intensive instruction in English as a second language for students at an elementary level of proficiency; listening, speaking, structure, reading, and writing. Prereq: Admission to American Language Program and permission of Director. Repeatable to a maximum of 2 completions. This course is graded S/U.		
1003 High Elementary Intensive English as a Second Language	U	0
Intensive instruction in English as a second language for students at a high elementary level of proficiency; listening, speaking, structure, reading, and writing. Prereq: Admission to American Language Program and permission of Director. Repeatable to a maximum of 2 completions. This course is graded S/U.		
1004 Intermediate Intensive English as a Second Language	U	0
Intensive instruction in English as a second language for students at an intermediate level of proficiency; listening, speaking, structure, reading, and writing. Prereq: Admission to American Language Program and permission of Director. Repeatable to a maximum of 2 completions. This course is graded S/U.		
1005 High Intermediate Intensive English as a Second Language	U	0
Intensive instruction in English as a second language for students at a high intermediate level of proficiency; listening, speaking, structure, reading, and writing. Prereq: Admission to American Language Program and permission of Director. Repeatable to a maximum of 2 completions. This course is graded S/U.		
1006 Advanced Intensive English as a Second Language	U	0
Intensive instruction in English as a second language for students at an advanced level of proficiency; listening, speaking, structure, reading, and writing with emphasis on English for academic purposes. Prereq: Admission to American Language Program, and permission of director. Repeatable to a maximum of 2 completions. This course is graded S/U.		
1007 High Advanced Intensive English as a Second Language	U	0
Intensive instruction in English as a second language for students at a high advanced level of proficiency; listening, speaking, structure, reading, and writing with emphasis on English for academic purposes. Prereq: Admission to American Language Program and permission of Director. Repeatable to a maximum of 2 completions. This course is graded S/U.		
1010 Intensive English: Integrated Skills	U	0
Integrated Skills for students in the Intensive English Program. Prereq: Admission to American Language Program, and permission of Director. Repeatable to a maximum of 10 completions.		
1020 Intercultural Communication for FCOB International Students	U	2
This performance-based course focuses on the speaking skills that facilitate success in the Fisher College of Business, OSU, and ultimately in the global business community. Aimed at helping first-year international undergraduate students, the course features activities, discussions, and readings related to cross-cultural conventions of spoken English and business English. Prereq: First-year international student in the Fisher College of Business, and students who scored 24 or below on the oral proficiency section of the TOEFL.		

1901 Advanced English as a Second Language	U	3
Reviews advanced English patterns with emphasis on their use in writing essays. Intended for undergraduates. Prereq: Placement test score of 1901.		
1902 Academic Writing in English as a Second Language	U	3
Attention given to various practices involving reading and source-based writing. Rhetorical and linguistic issues addressed. Synthesis and argumentative writing in response to literary and nonliterary texts. Intended for undergraduates. Prereq: A grade of D or above in 1901, or Placement Test.		
1902.04 Academic Writing in English as a Second Language	U	4
Attention given to various practices involving reading and source-based writing. Rhetorical and linguistic issues addressed. Synthesis and argumentative writing in response to literary and nonliterary texts. Intended for undergraduates. Prereq: Placement test.		
2100 Dramatic and Arts-Based Teaching and Learning	U	3
Students will become comfortable with, and knowledgeable about arts integration: dramatic and arts-based approaches to teaching and learning in diverse settings (schools, art museums, theatres, community centers).		
2189 Field Experience	U	1 - 4
Professional service with children or youth in a school or community agency. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.		
2367 Education, Society and Writing	U	3
Designed to help students reflect critically, both orally and in writing, on the social, political, and cultural contexts that influence education in today's society. Prereq: A GE level 1 writing course. Not open to students with credit for 607. GE writing and comm course: level 2.		
2368 Introduction to Children's Literature	U	3
This is a survey course in which students study the historical and contemporary elements of literature intended for children, including picturebooks; traditional tales; novels of realism, and fantasy; nonfiction; poetry; and multicultural books. Prereq: English 1110, or equiv. Not open to students with credit for 467. GE lit course.		
2744 Technologies Used In STEM Education	U	3
The role and scope of educational technology for standards based STEM instruction. Exploration of areas in which mathematics, science education, and technology education can effectively use educational technology in a pedagogically sound manner. Technology has two roles in STEM education; to teach and learn with, and as a tool for doing STEM.		
2820 Creativity and the Arts in Early Childhood Development and Education	U	3
This course introduces students to basic definitions, theories, and practical examples of using creativity, imagination, and the arts as means for educating young children within and outside of traditional early childhood educational settings.		
3160 Application of Development in Learning Contexts	U	3
Designed for students to apply theories and research of child growth and development in multiple learning contexts. Prereq: Not open to students with credit for 460. GE soc sci indivs and groups course.		
3189 Field Experience	U	1 - 2
Field experience within teaching and learning majors. Prereq: Admission to Teaching and Learning Major. Repeatable to a maximum of 4 cr hrs or 4 completions.		
3193 Individual Studies	U	1 - 3
Individual study projects. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.		
3194 Group Studies	U	1 - 3
Group studies on special problems in education. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.		
3356 Literature for Adolescents	U	3
Literature for individual, group, and whole-class reading in junior and senior high schools; interest factors and literary value as criteria for selection; bibliographic aids. Prereq: English 1110 or equivalent. Not open to students with credit for 656 or 3356E. GE lit course.		
3356E Literature for Adolescents	U	3
Literature for individual, group, and whole-class reading in junior and senior high schools; interest factors and literary value as criteria for selection; bibliographic aids. Prereq: English 1110 or equivalent. Not open to students with credit for 3356 (656). GE lit course.		
4005 Urban Teaching and Learning	U	3
This course introduces students to issues related to teaching and learning in urban school contexts. Prereq: Not open to students with credit for 559. GE soc sci indivs and groups and diversity soc div in the US course.		

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4015	Sexualities and Education	U	3	5060	Special Topics: Spoken English for International Graduate Students	U G	1
	Examination of sexual orientation as an arena of diversity in K-12 and higher education as well as society.				Focuses on areas of language acquisition challenges for students needing extra work in a specific aspect of language development to progress through completion and certification in a timely manner.		
	Prereq: Not open to students with credit for EduPL 415.				Prereq: Placement test required or permission of English as a Second Language department. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.		
4174	Family Participation in Early Childhood School Programs: General Student Body	U	3	5101	Teaching and Learning with Drama: Introduction	U G	3
	The purposes and importance of family involvement in early childhood school programs, types of programs, resources, methods, and curricula.				Introduction to the use of drama and social imagination in education.		
	Prereq: Not open to students with credit for 674.07.				Prereq: Jr or Sr standing with some field experience, or experienced teacher. Not open to students with credit for 633. Repeatable to a maximum of 6 cr hrs.		
4189	Advanced Field Experience	U	1 - 4	5102	Teaching and Learning of Literacy in Grades Pre-K - 3	U G	3
	Directed field experience emphasizing appropriate teaching strategies for different school age children and settings.				Examination of children's oral and written language development and related theoretical understandings instrumental for teaching language arts including evaluation processes and instructional materials.		
	Prereq: Admission to appropriate teacher education program. Repeatable to a maximum of 12 cr hrs or 3 completions.				Prereq: Enrollment in Education major or Master of Education.		
4191	Internship	U	1 - 15	5108	Teaching and Learning of Mathematics in Grades Pre-K - 3	U G	3
	Internship in an educational or community setting.				Prepares preservice teachers with knowledge, skills of, and ability to use standards, learning theories, pedagogies, assessment, and technology for the teaching and learning of Pre-K - 3 early childhood mathematics in a diverse classroom.		
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.				Prereq: Admission to Early Childhood teaching licensure program, or permission of instructor. Not open to students with credit for 708.		
4303	Linguistic Diversity in Education	U	3	5120	Arts-Based Integrated Learning	U G	3
	Prepares students to work effectively with linguistically diverse populations in educational contexts and includes an introduction to linguistic diversity and how it shapes teaching and learning.				Focuses on using arts-based, inquiry-based, and project-based learning as interdisciplinary, integrated approaches to curriculum and building multiple literacies and supporting multiple learners simultaneously.		
	Prereq: Admission to appropriate teacher education program. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.				Prereq: Not open to students with credit for 872.		
4998	Undergraduate Research in Teaching and Learning	U	1 - 4	5123	Early Childhood Pedagogy	U G	3
	Undergraduate Research is completed by junior and/or senior students as an independent study under the supervision of a faculty member. The student will conceptualize a research study, identify theories and methods appropriate to the research, and assume responsibility for data collection, data management, and other activities pertaining to the research project including scholarly writing.				Pedagogy I explores sociocultural perspectives on teaching and learning in early childhood and elementary education, the role of teacher as researcher/inquirer, and the ways in which sociocultural pedagogies interface with standard-based education.		
	Prereq: A cumulative GPA of 3.0 or above. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.				Prereq: Admission to major or M.Ed. Not open to students with credit for 723.		
4998H	Undergraduate Research in Teaching and Learning	U	1 - 4	5125	Redefining Roles: Investigating Reggio-inspired Practice	U G	3
	Undergraduate Research is completed by junior and/or senior honors students as an independent study under the supervision of a faculty member. The student will conceptualize a research study, identify theories and methods appropriate to the research, and assume responsibility for data collection, data management, and other activities pertaining to the research project including scholarly writing.				Students are introduced to foundational principles of the Reggio Emilia approach for children from infancy-elementary years. Using these tenets, students will develop a theory of how Reggio principles interface with teaching and learning within an American context, emphasizing the reexamination of teacher roles and the learner through an inquiry-based		
	Prereq: Honors standing, and an overall GPA of 3.40 or above. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.				5129	Teaching and Learning of Science in Grades Pre K - 3	U G 3
	Focuses on issues of diversity, equity, teacher beliefs, and multicultural education. Emphasis is placed on the roles of identity and lived experience and its influences on approaches to teaching and learning in educational settings.				Exploration of contemporary alternatives in early childhood science education and the development of knowledge and skills for teaching and learning in grades Pre K - 3, with a focus on preschool and kindergarten.		
	Prereq: Not open to students with credit for 815.				Prereq: Enrollment in Education major or Master of Education. Not open to students with credit for 729.		
5005	Equity and Diversity in Education	U G	3	5137	Teaching and Learning of Social Studies Grades Pre-K - 3	U G	3
	Designed to improve the spoken English fluency, pronunciation, grammar, and listening comprehension of non-native English speaking graduate students. Public speaking skills and an awareness of American culture.				Designed to provide opportunities to examine interesting and effective social studies content knowledge, cultural understandings, and pedagogies for the early childhood learner within global contexts.		
	Prereq: Placement test, and permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.				Prereq: Not open to students with credit for 737.		
5040	Advanced Spoken English for Int'l Graduate Students I	U G	4	5174	Family Participation in Early Childhood School Programs	U G	3
	Designed to improve the spoken English fluency, pronunciation, grammar, and listening comprehension of non-native English speaking graduate students. Development of academic public speaking skills. Contemporary issues are discussed.				The purposes and importance of family involvement in early childhood school programs, types of programs, resources, methods, and curricula.		
	Prereq: Placement test, and permission of instructor. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.				Prereq: Education pre-major or admission to licensure program. Not open to students with credit for 674.		
5045	Advanced Spoken English for Int'l Graduate Students II	U G	3	5189	Planned Field Experience	U G	1 - 15
	Designed to improve the spoken English pronunciation, grammar, and listening comprehension of non-native English speaking graduate students. Development of academic public speaking skills. Contemporary issues are discussed.				Planned field experience under supervision in a P-12 classroom.		
	Prereq: Placement test, and permission of instructor. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 4 completions.		
5050	Classroom English for International Graduate Teaching Associates	U G	3	5191	Supervised Student Teaching Internship	U G	3 - 15
	Designed to improve the classroom communication skills of non-native English speaking TAs. With a focus on teaching, linguistic and discourse competence are developed for success in the cultural context of the American university.				Student teaching internship in a P-12 classroom where students assume major teaching responsibilities under the guidance of a cooperating teacher and university supervisor.		
	Prereq: Placement test, and permission of instructor. This course is graded S/U.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 2 completions.		
5055	Teaching Workshop for International Graduate Teaching Associates	U G	2	5195	Reflective Seminar	U G	1 - 4
	Addresses the particular issues of non-native English speaking graduate students as TAs. Involves discussion of teaching issues, classroom observations, and extensive teaching practice and feedback in both class and tutorials.				Seminar held in conjunction with field experience or student teaching internship. The goals are to process, reflect upon, and enhance benefits of the school experiences.		
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.				Prereq: Admission to major in Education or Master in Education. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.		
5220	Foundations of Middle Childhood Teaching and Learning	U G	3		Introduces the foundations and major concerns in middle childhood education using contemporary research, scholarship, and practice, and exploring traditional and newer course materials.		
					Prereq: Not open to students with credit for 601 and 603.		

5225	Reading Multicultural Literature Across Middle Childhood Curricula	U G	3
Engaging reading strategies for middle childhood students focusing on fiction and non-fiction that represents diverse cultures and develops understandings of content areas.			
5226	Literacy, New Media, and Creative Pedagogies for Classrooms	U G	3
Focuses on active and creative approaches to literacy education (including visual and performing arts) that draw on new media and are particularly useful in early and middle childhood classrooms. Prereq: Not open to students with credit for 854.			
5230	Language Arts Methods for Preservice Middle Childhood Teachers	U G	3
Preservice teachers study methods for teaching middle childhood students' reading and writing. They explore the significance of students' interests, language, and communities to their knowledge and meaning-making of the Language Arts. Prereq: Not open to students with credit for 706.			
5270	Mathematics Methods for Preservice Middle Childhood Teachers	U G	3
Preservice teachers study methods for teaching middle childhood mathematics. These methods include instruction, assessment, and learning theory to support the teaching and learning of mathematics in grades 4 through 9. Prereq: Not open to students with credit for 709.			
5275	Science Methods for Preservice Middle Childhood Teachers	U G	3
Prospective teachers study methods of science instruction and assessment of student learning in grades 4 through 9, with an emphasis on inquiry-based learning and formative assessment of student understanding. Prereq: Not open to students with credit for 719.			
5280	Social Studies Methods for Preservice Middle Childhood Teachers	U G	3
Preservice teachers study planning, teaching and assessing of students' learning of social studies education, emphasizing the value of using effective and diverse teaching strategies and meaningful learning activities appropriate for grades 4-9. Prereq: Not open to students with credit for 738.			
5281	Development of 4th and 5th Grade Learners Across the Curriculum	U G	3
Aids students in acquiring a working understanding of the physical, cognitive and language development of the children in 4th/5th grades. Prereq: 3160 or HDFS 2410; or Grad standing. Not open to students with credit for 680.			
5282	The Social Transitions of 4th and 5th Grade Learners	U G	3
Focuses on the social and emotional development of the early adolescent in society, home and in the classroom setting. Prereq: 3160 or HDFS 2410; or Grad standing. Not open to students with credit for 681.			
5283	Teaching Mathematics, Science and Culture in 4th and 5th Grades	U G	3
Related to teaching mathematics and science with consideration of pedagogy, content, assessment and equity. Prereq or concur: 3189, and 5108 or 5129; or Grad standing. Not open to students with credit for 682.			
5284	Integrating Language Arts and Social Studies in 4th and 5th Grades	U G	3
Related to the integration of LA/SS. The focus is on curriculum, pedagogy, and integration specific to 4th/5th grades. Prereq or concur: 3189, and 5108 or 5129; or Grad standing. Not open to students with credit for 683.			
5301	Foundations of Bilingual Education	U G	3
This course will provide a space to discuss and deconstruct the history, theoretical foundations, and practices of bilingual education in the United States, with a particular focus on the experiences of immigrant children. Participants will explore the definitions and characteristics of bilingual education, including its historical, political, legal, and ideological foundations.			
5305	Literacy and Social Action	U G	3
Intro to the interdisciplinary study of literacy with special focus on the relationship of literacy to social action and social change including theories of literacy, current debates in literacy studies, and links to social actions and change.			
5339	Evaluation and Instructional Decision-Making in Literacy	U G	3
Assessment instruments and processes to determine students' abilities and needs and instructional strategies to meet those needs as useful to early and/or middle childhood teachers are explored. Prereq: 5469, and enrollment in a B.S. Ed. major or Master of Education program. Not open to students with credit for 705 or 739.			
5341	Journalism and New Media in the 7-12 Classroom	U G	3
Designed for pre-service teachers who plan to teach school newspaper, yearbook, broadcast and news media in middle school or high school (grades 7-12). Prereq: Not open to students with credit for 641.			

5345	Teacher Inquiry & Methods: Writing	U G	3
Designed to assist students to understand writing development to develop process-oriented approaches to writing instruction. Prereq: Admission to the Teaching & Learning B.S.Ed. or M.Ed. program. Not open to students with credit for 645.			
5346	Teacher Inquiry & Methods: Literature	U G	3
Designed to assist students in learning about literary understanding and in developing pedagogical content knowledge for teaching environment-oriented approaches to literature instruction. Laboratory experience required. Prereq: Admission to B.S.Ed., M.Ed., EHE major, or permission of instructor. Not open to students with credit for 646.			
5362	Roots of Fantasy	U G	3
A study of selected works of fantasy for children grades 4-9 along with their source in traditional literature; works based on Greek and Arthurian legends, the Welsh Mabinogion and other folklore. Prereq: Not open to students with credit for 862.			
5365	Linguistics for Literacy Education	U G	3
This is an introduction to educational linguistics. Through exploration of linguistic concepts and their relevance to teaching, learning, and literacy, students develop new ways of seeing and supporting students' development as skilled language users. Prereq: Not open to students with credit for 665.			
5370	Language and Literacy Development & Instruction for Bilingual Learners	U G	3
This course provides an overview of key research on bilingual and biliteracy development with a focus on children who are learning and living in two (or more) languages in their homes, communities, and schools. Course examines the complexity of bilingualism and biliteracy, including the influences on and processes of bilingual/biliteracy development and the roles of culture in schooling.			
5442	Teaching Reading Across the Curriculum	U G	3
Provides the knowledge and tools needed to support the developmental reading and literacy skills for students seeking licensure in AYA (7-12), multi-age and Voc Ed programs. Laboratory experience required. Prereq: Admission to B.S.Ed., M.Ed., EHE major, Agriscience Ed major, or permission of instructor. Not open to students with credit for 642.			
5453	Critical Literacy in Content Area Classrooms	U G	3
Teaches teachers to provide the support many students need throughout their schooling to develop their literacy skills in content areas; recognizing that learning the discourses of various fields and genres is a life-long endeavor. Prereq: Not open to students with credit for 853.			
5455	Hiphop Literacies	U G	3
Combines the study of Hiphop Based Education and new literacy studies. Students will investigate Hiphop cultural arts and discourses of everyday life as a form of culturally relevant teaching and learning.			
5468	Reading Foundations	U G	3
Introduction to basic concepts about the reading process, learning to read, social/cultural factors affecting literacy development and effective literacy instruction. Prereq or concur: 2368 or 3356. Not open to students with credit for 668.			
5469	Understanding Phonics and its Role in Instruction	U G	3
Detailed examination of how English maps spellings to pronunciations, the role of phonics knowledge in learning to read, and effective assessment and instruction. Prereq: 5468 (668). Not open to students with credit for 669.07.			
5470	Assessment and Instruction for Struggling Readers	U G	3
Provides an introduction to theories, assessments, and instructional practices that effectively address the literacy needs of struggling and at-risk readers. Laboratory experience required. Prereq: 5468 and 5469, or permission of instructor. Not open to students with credit for 670.			
5471	Clinical Practice in Treating Reading Disabilities	U G	3
Use of test materials in the diagnosis of reading disabilities; practice with remedial procedures. Prereq: 5470, or permission of instructor. Not open to students with credit for 671. Repeatable to a maximum of 6 cr hrs.			
5501	Inclusion: Philosophical, Social, and Practice Issues: General Student Body	U G	3
Philosophical, social, and practice issues related to the inclusion of students with disabilities in the P-12 general education classroom. Prereq: Not open to students with credit for 809.07.			
5505	Multi-Tiered Systems of Support	U G	3
Introduces students to the concept of multi-tiered systems of support. Emphasis on 1) strategies for assessing and teaching social skills to diverse learners in inclusive classrooms; 2) designing and implementing multi-tiered instructions within Response-to-Intervention Model; 3) collaborative differentiated instruction for whole class, small group, one-on-one teaching. Prereq: 5501 or ESSpED 5650. Cross-listed in ESSpED.			

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5506 Reading and Writing Braille

U G 3

This course provides future teachers of the visually impaired an efficient, learn-by-doing experience to attain mastery of the literary braille code and to develop positive attitudes toward this valuable medium. The essential features and rules of usage of the braille code as published in The Rules of Unified English Braille (UEB), 2nd Edition (2013) are presented. Prereq: Not open to students with credit for 6505 or 833.

5507 Visual Processes

U G 3

Introduces students to the historical foundations, laws, and regulations that effect students with visual impairments. Students will also learn about anatomy and physiology of the eye, diseases, disorders, and eye specialists' reports.

Prereq: Not open to students with credit for 826.

5508 Modes of Communication and Instructional Materials for Students with Visual Disabilities

U G 1

Continuation of the examination of expressive modes of written communication with a focus on the Nemeth Code for mathematics and science. Knowledge of teaching strategies for mathematics is also studied.

Prereq: 6505 or 5505. Not open to students with credit for 6506 or 835.

5525 Curriculum and Instruction for Students with Visual Impairments and Multiple Disabilities

U G 3

Introduces individuals to principles of curricular and instructional design for all children with visual impairments (K-12). Adaptations and modifications, especially for the general education curriculum, are emphasized.

Prereq: Not open to students with credit for 6501 or 747.

5610 Language Arts & ESL Instruction

U G 3

Research, theories, and practices linking second language acquisition and methods of teaching reading, writing, listening, speaking and grammar in ESL and EFL classrooms.

Prereq: Admission to an undergraduate, graduate, or graduate non-degree program. Not open to students with credit for 606.

5612 Secondary Methods in World Language Education

U G 3

Theory and practice of teaching world language in secondary (middle and high school) classrooms; use and preparation of instructional materials current theory and practice in world language teaching, learning, and assessment. Meets concurrently with 5613.

Prereq: Enrollment in Foreign Language B.S. Ed. or Master in Education program.

5613 Core Practices in World Language Education

U G 3

This course will present theory and practice of teaching world language in beginning classes, based on current research on a practice-based approach to learning to teach focused on core practices. Teacher candidates will apply the practices studied in their field-based experience in the P-12 classroom, as preparation for the student teaching experience.

Prereq: Enrollment in Foreign Language B.S. Ed. or Master of Education. Not open to students with credit for 616.

5614 Teaching of Foreign Language in the Elementary School

U G 3

Skill development in teaching of spoken and written foreign language on the elementary school level; construction and use of suitable materials; discussion of issues and problems, evaluation.

Prereq: Enrollment in Foreign Language B.S. Ed. or Foreign Language Master of Education. Not open to students with credit for 617.

5615 Methods and Culture in TESOL

U G 3

Study of the use of new instructional materials for intermediate and advanced TESOL classes; teaching of reading, writing, literature, and culture; evaluation.

Prereq: Enrollment in Education major, Master in Education program, graduate non-degree or undergraduate non-degree (Extended Education) program. Not open to students with credit for 640.

5620 Introduction to Second Language Acquisition

U G 3

Studies of the theories underlying the teaching and learning of English as a second language and bilingual education: analyses of curricular designs and innovative programs.

Prereq: Enrollment in Education major, Master in Education program, graduate non-degree or undergraduate non-degree (Extended Education) program. Not open to students with credit for 703.08.

5630 Teaching Second Language Grammar and Vocabulary

U G 3

Focuses on the teaching of grammar and vocabulary to second language learners. Various theories, models, and techniques associated with grammar and vocabulary instruction and learning are reviewed, and students gain hands-on experience in the application of this material.

Prereq: Enrollment in a Grad or undergraduate program in EduTL, or Grad non-degree program.

5640 Syllabus and Materials Development in Second Language Teaching

U G 3

The development of syllabi and materials for language courses in alignment with theories of second language learning.

Prereq: Enrollment in Education major or Master in Education program. Not open to students with credit for 868.

5645 Assessing L2 Learning

U G 3

Focuses on theories, models, and techniques associated with second language students' learning and language proficiency with the aim of preparing students to critique established testing procedures and develop their own assessment instruments.

Prereq: Enrollment in a Grad or undergraduate EduTL program, or Grad non-degree.

5700 Training in Informal Science Outreach

U G 3

Provides students with hands-on training in informal science education at the COSI museum. All students will learn to provide outreach education at the museum; advanced students will develop outreach materials, assist in the visible research operations, and mentor other students.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in Psych and Ling.

5711 Methods in Teaching STEM Secondary Mathematics I

U G 3

Increase pedagogical content knowledge of number and probability concepts as appropriate for secondary students. Concepts such as ratio, fractions, decimals, percents, proportionality, data analysis and probability will be included.

Prereq: Admission to major or M.Ed. Not open to students with credit for 621 and 749.

5712 Methods in Teaching STEM Secondary Mathematics II

U G 3

Pedagogical content knowledge of geometry and measurement as appropriate for Grades 7-12. Concepts such as similarity, transformations, representations, justification, and spatial reasoning will be included.

Prereq: Admission to the STEM major or M.Ed. Not open to students with credit for 749.01.

5721 Methods in Teaching STEM Secondary Science: I

U G 3

Preservice science teachers are introduced to the principles of safe scientific inquiry through activity-based lessons for grades 7-12. Microteaching experiences offer opportunities for students to develop and present science lessons.

Prereq: Enrollment to Education major or Master in Education program. Not open to students with credit for 636.01.

5722 Methods in Teaching STEM Secondary Science II

U G 5

The nature of science is viewed from scientific, philosophical, sociological, and historical perspectives. Ideas fundamental to all science fields such as observation, inference, inquiry, hypothesis testing, models, theories, and laws are addressed.

Prereq: Enrollment to Education major or Master in Education program. Not open to students with credit for 751.

5741 Learning, Cognition, and Teaching in STEM Education

U G 3

Cognitive development, cognition and affect in the learning of STEM subjects with implications for teaching in secondary school STEM.

Prereq: Not open to students with credit for 721.03.

5744 Technologies Used in STEM

U G 3

The role and scope of educational technology for standards based STEM instruction.

Exploration of areas in which mathematics, science education, and technology education can effectively use educational technology in a pedagogically sound manner.

Prereq: Not open to students with credit for 750.

5745 Assessment in STEM I: Introduction

U G 3

Explores how prior knowledge and reasoning strategies impact meaningful learning in STEM fields. Discussions of assessment design and evaluation are framed within a value-added model of STEM teaching and learning.

Prereq: Admission to major or M.Ed. Not open to students with credit for 748.01.

5798 Study Tour

U G 1 - 3

Specific content, location, terms of offering, and prerequisites vary; contact school office for details. Repeatable to different titled study tours only.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

5808 Social Studies Methods I

U G 4

Integrates methods of teaching social studies with daily field experiences to effect authentic teaching and learning for preservice teachers.

Prereq: Admission to MED program and completion of content courses. Not open to students with credit for 638.

5809 Social Studies Methods II

U G 3

Focuses on lesson/unit planning with an emphasis on authentic learning, higher level thinking skills, global and multicultural perspectives, active learning strategies, and performance-based assessment.

Prereq: Enrollment in Master of Education program and completion of content courses. Not open to students with credit for 639.

5892 Workshop

U G 1 - 4

Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

5901 Advanced English as a Second Language

U G 3

Provides English language learners with extensive field-specific writing practice, with an emphasis on academic writing conventions, grammatical accuracy, and syntactic complexity. Intended for graduate students.

Prereq: Grad standing, and placement test.

5902	Academic Writing in English as a Second Language	U G	3
Attention given to various practices involving reading and source-based writing. Rhetorical and linguistic issues addressed. Writing about and presenting research findings in specific disciplines.			
Prereq: A grade of D or above in 5901 or 5901.05, and Placement Test; or Grad standing.			
5992	Special Topics in Education	U G	1 - 3
Special topics focused on education.			
Repeatable to a maximum of 12 cr hrs or 4 completions.			
6050	Multiple Perspectives on Teaching and Learning: MA	G	3 - 4
Investigates diverse ways of conceptualizing cognitive development and its relationship to learning and teaching and examine specific factors such as the development of memory, attention, problem solving, and specific academic skills.			
Prereq: Not open to students with credit for 871.			
6052	Classroom-Based Inquiry: MA	G	3 - 4
Focuses on the history and evolving status of classroom-based inquiry and teacher action research. Students will develop a proposal for a classroom-based inquiry project, and will practice collecting and analyzing data and summarizing findings.			
Prereq: Not open to students with credit for 874.			
6053	Balanced Assessment for Teaching and Learning	G	3
Organized to follow the conceptualization, design, and implementation of a balanced, coordinated approach to formative instructional and assessment practices.			
6101	Dramatic Inquiry Across the Curriculum	G	3
Using drama to extend inquiry-based learning in literacy and content areas.			
Prereq: Not open to students with credit for 777. Repeatable to a maximum of 6 cr hrs.			
6102	Drama and Literacy	G	3
The use of drama to promote literacy learning.			
Prereq: Not open to students with credit for 644. Repeatable to a maximum of 6 cr hrs.			
6301	Exploring Language and Learning in Classrooms	G	3
Introduction to the use of discourse analysis in classroom instruction. Focus on principles, practices, analysis of instructional conversations, and implications for enhancing student learning. The course engages students in conducting discourse analyses of their own classrooms. Students must currently be teaching or co-teaching in a classroom and be able to video record events in that classroom.			
Prereq: Enrollment in either M.A or M.Ed programs; or permission of instructor. Repeatable to a maximum of 6 cr hrs.			
6302	Teaching Digital Composition in Elementary and Secondary Classrooms	G	3
Intended for elementary and secondary in-service teachers who want to explore and improve their students use of digital composition. The course emphasizes teachers using digital composition themselves as well as design of instruction for promoting students' use of digital composition.			
Prereq: 7393, or permission of instructor. Repeatable to a maximum of 6 cr hrs.			
6303	Linguistic Diversity in Education	G	3
An introduction to linguistic diversity; how it relates to cultural diversity; how linguistic/cultural diversity shapes teaching and learning in educational settings; & what research says about effective instruction.			
Prereq: Not open to students with credit for 703.07.			
6530	Professional Development in the Field of Visual Impairment	G	3
Designed to allow the student to develop knowledge and skills in adaptive technology, early childhood intervention, and issues that are unique to the field of visual impairments.			
Prereq: 6507 (826).			
6630	TESOL Seminar	G	3
The exploration of themes, issues, and topics relevant to the Foreign and Second Language Education Program, with a particular emphasis on TESOL.			
Prereq: Not open to students with credit for 927.45.			
6645	Language as a Resource: The Functions of Language in Teaching and Learning	G	3
The functions of language in teaching, learning, and schooling in general can reveal the underlying features of language use in these contexts. Whether in content-area literacy, Bilingual Education, Teaching English to Speakers of Other Languages (TESOL), or World Language Education, this course explores the language choices available based on the particular context in which language is used.			
6808	Multicultural and Global Perspectives on Teaching and Learning	G	3 - 4
Examines knowledge, pedagogy, reforms, and resources that support education for cultural diversity and equity in an interconnected world.			
Prereq: Not open to students with credit for 881.			
6890	M.Ed Capstone Seminar	G	3
Seminar to prepare M.Ed students for the comprehensive written examination or approved alternative.			
Prereq: Not open to students with credit for 926.			

6891	M.A. Capstone Seminar	G	2
Provides guidance for M.A. students working on final action research projects (or other approved projects), writing thesis proposals or preparing for the comprehensive examination.			
Prereq: Not open to students with credit for 928.			
6892 Special Topics in Education G 1 - 4			
Special topics for professional educators and graduate students; designed to provide the opportunity to update professional skills and review current research developments.			
Repeatable to a maximum of 16 cr hrs or 16 completions. This course is graded S/U.			
6894	Co-Planning & Co-Teaching for Mentors of Interns	G	1
Teachers will learn about a new model for mentoring student teachers that focuses on student learning. This apprenticeship model essentially causes the team to build strong working relationships. Teachers will learn how to make teaching decisions public so that the intern becomes better prepared to teach. Co-Planning & Co-Teaching is becoming the preferred model for mentoring student teachers.			
This course is graded S/U.			
6911	Writing for Coursework for International and 2nd Language Graduate Students	G	2
Guidance and practice with writing in various genres essential to an academic career-essays, reviews, reports-the kind of writing required in grad-level coursework and end-of-term and comp. Tutorial time arranged. Intended for international graduate students.			
Prereq: 5902, or qualified status; and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
6912	Research Writing for International and 2nd Language Graduate Students	G	2
Designed to help international graduate students in preparing a conference paper and in preparing a manuscript for publication.			
Prereq: 5902, or qualified status; and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
6913	Thesis Proposal and Dissertation Writing for International and 2nd Language Graduate Students	G	2
Assist international graduate students in writing their thesis, dissertation, or thesis/dissertation proposal. Tutorial time arranged. Intended for international graduate students.			
Prereq: 5902 (508), or qualified status; and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
7008	Sociocultural Studies of Teaching and Teacher Education	G	3
A sociocultural look at ways teaching as a profession has been shaped by history, culture, gender; multiple agendas for teacher education; structure of current practice; different programs of reform; studies of teacher education.			
7010	Diverse Approaches to Research on Teaching and Learning	G	3 - 4
Explores the wide range of teaching and learning research genres; including multiple forms of statistical (quantitative), ethnographic (qualitative), historical and theoretical scholarship on teaching and learning.			
Prereq: Not open to students with credit for 842.			
7014	Epistemologies and Theories in Multicultural and Equity Studies in Education	G	3
Examine and focus in depth on various critical epistemologies, theories, and assumptions and the relationships between them and the pursuit of social justice.			
Prereq: Not open to students with credit for 940.			
7015	Curricular Approaches in Multicultural and Equity Studies in Education	G	3
Provides an overview of curricular approaches in MESE drawn from local, national and global scholarship and contexts. Students examine a variety of curricular approaches towards social justice and activist praxis in education.			
7025	Culturally Relevant Pedagogy	G	3
Focuses on the research that informs culturally relevant pedagogy.			
7030	Multicultural Influences in Education	G	3
Explores multicultural influences on curriculum, culture and contexts of teaching and learning, given the diversity of the United States and globally. Emphasis given to examining diversity from diverse theories and conceptual frameworks.			
Prereq: Not open to students with credit for 830.			
7035	Teaching for Social Justice	G	3
An exploration into economic, political, technological and ecological components of multicultural education as it relates to diversity and social justice.			
Prereq: Not open to students with credit for 879.			
7075	Disabilities in Education	G	3
This three-credit graduate course for both MA and Ph.D. students will examine the historical nature of disabilities in society and in particular in the education system, the foundation of public laws to benefit persons with disabilities, the family- community connection for students with disabilities, and current critical issues for students with disabilities in classrooms.			
7102	Drama, Literacy, and Learning	G	3
Advanced studies in how drama affects literacy and learning.			
Prereq: Not open to students with credit for 888. Repeatable to a maximum of 6 cr hrs.			

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7169	Children's Social Development and the Social World of the Classroom	G	3	7356	Advanced Literature for Adolescents	G	3
	Emphasizes children's social development through the understanding of children's social worlds including the phenomenon of their play from the early through the middle school years.			An evaluation of literature for adolescents and the role it plays in the education of youth.			
	Prereq: Not open to students with credit for 869.			Prereq: Not open to students with credit for 856.			
7170	Rethinking Early Childhood and Elementary Education: The Politics of Childhood	G	3	7361	Literature in Early Childhood Education	G	3
	Examination of important classical and contemporary research concerning young children with a focus on the preschool-early elementary years.			Analysis and study of fiction and nonfiction for children age 2-8; emphasis on the importance of early exposure to literature for language acquisition visual literacy, and cognitive and affective development.			
	Prereq: Not open to students with credit for 861.			Prereq: Not open to students with credit for 861.			
7189	Advanced Field Placement	G	1 - 12	7364	Multicultural Literature for Children and Young Adults	G	3
	Field or research experience in a P-12 school, higher education or other educational setting, agency, or cross-cultural settings.			Focus on educational and interdisciplinary research concerned with selecting, analyzing, and discussing diverse children's and YA literature, created by historically marginalized authors and illustrators. Literature selections include the life experiences, histories, and fantastic visions representing LGBTQ, Native American, African American, Latinx, Asian American, and new immigrant experiences.			
	Repeatable to a maximum of 20 cr hrs or 4 completions. This course is graded S/U.			Prereq: Not open to students with credit for 864.			
7193	Individual Studies	G	1 - 15	7365	Linguistics for Literacy Education	G	3
	Individual study projects. For thesis option, not more than 12 cr hrs will apply toward the master's degree. For non-thesis option, not more than 15 cr hrs will apply. Not more than 20 cr hrs will apply toward the doctoral degree.			Introduction to educational linguistics. Through exploration of linguistic concepts and their relevance to teaching, learning, and literacy, students develop new ways of seeing and supporting students' development as skilled language users.			
	Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.			Prereq: Not open to students with credit for 665.			
7194	Group Studies	G	1 - 3	7370	The English Curriculum: Past, Present, and Future	G	3
	Group studies on special problems in education.			Critical examination of history, current practice, and trends in the middle and secondary English curriculum.			
	Repeatable to a maximum of 12 cr hrs or 12 completions.			7371	Teaching Writing in the Secondary School	G	2 - 3
7303	Language and Society	G	3		Designed to assist teachers' understanding of writing development and writing assessment in order to develop process-oriented approaches to writing instruction.		
	Focuses on the history, sociology, and the politics of national policies involving second language throughout the world.			Prereq: Not open to students with credit for 970.			
	Prereq: Not open to students with credit for 803.			7374	Sociocultural Theory and Literacy Education and Research	G	3
7306	Language Socialization	G	3		Examines the core concepts of sociocultural theory, several branches of this work in education, and their implications for contemporary studies of literacy teaching and learning.		
	Introduces the field of language socialization, providing theoretical, conceptual and methodological frameworks for research on linguistic and social development, teaching, and learning in various contexts.			Prereq: Not open to students with credit for 974.			
	Prereq: Not open to students with credit for 906.			7393	Teaching Writing	G	2 - 6
7308	Literary Experience and Understanding: Readers, Texts and Contexts	G	3		Serves as the Summer Institute of the Columbus Area Writing Project. It focuses on improving the teaching of writing for experienced teachers of all subject areas in grades K-16.		
	Examines historical and current research on the interrelationships among children's and young adults' literary experiences, understanding, qualities of literary genres and formats, and reading in educational contexts.			Prereq: Not open to students with credit for 898.			
	Prereq: Not open to students with credit for 908.			7418	Synthesizing Research in Reading and Literacy	G	3
7316	Language Arts in the Early and Middle Childhood Program	G	3		Students gain an in-depth understanding of how to review, analyze, and synthesize research in reading and literacy. The focus is on the process of reviewing and synthesizing research (rather than on the content).		
	Process and support for language development in the early years. Problems, research, and current teaching method in the major areas of language arts: listening, speaking, reading, writing, viewing, and constructing images.			Prereq: Not open to students with credit for 918. Repeatable to a maximum of 6 cr hrs.			
	Prereq: Not open to students with credit for 860.			7420	Teaching Literature for Engagement and Equity	G	3
7317	Advanced Children's Literature	G	3		Study of theory and arts-based practices in reading and literature education, that demonstrate how teachers can support readers' engagement with cross-cultural perspectives, social positioning, cultural identity and social justice.		
	An evaluation of the changing role of children's literature in the education of children and youth; emphasis on identifying quality selections developmentally appropriate books.			7427	Advanced Study of the Development of Reading and Writing	G	3
	Prereq: Not open to students with credit for 817.				Designed to provide experienced teachers the opportunity to extend and update their knowledge of reading and writing development and the principles underlying effective reading and writing instruction in the early and late childhood years.		
7322	Literature Across the Curriculum	G	3	7428	Trends and Issues in Teaching Reading	G	3
	Children's Literature for grades K- 8 as it contributes to social studies, the sciences, language arts, and the creative arts: emphasis on identifying quality selections in genre of nonfiction, and on planning related to learning experiences.				In-depth examination of major trends and issues in teaching reading in the elementary school including research over the last three decades and major issues and concerns currently debated among members of the literacy education profession.		
	Prereq: Not open to students with credit for 722.			Prereq: Not open to students with credit for 828.			
7324	Literary Theory and Adolescent Literature	G	3	7429	Reading Complex Texts	G	3
	Explores the application of diverse theories to young adult literature for in-depth literary study in secondary classrooms.				For elementary, middle, and secondary teachers who want to develop new multimodal approaches for challenging students to read with greater attention to details and deeper meaning, with a more difficult range of vocabulary and texts.		
	Prereq: Not open to students with credit for 923.			7430	Phonics, Word Study, & the Complexities of English Orthography	G	3
7343	Literature in Middle Childhood Education	G	3		Learn the historical influences on contemporary American-English spellings. Study the technical vocabulary associated with phonics, word study, & English orthography; how to administer and analyze appropriate assessments for elementary and middle school students; and, how to implement instruction to support student learning.		
	Analysis and study of fiction and nonfiction for children age 8-14; emphasis on literary quality, strategies for classroom use and relevant issues.			7431	The Ethnography of Literacy and Language I	G	4
	Prereq: Not open to students with credit for 843.				Introduces the ethnography of literacy and language as fields of inquiry, providing theoretical, conceptual and methodological frameworks for research on written and oral language practices that are embedded in various social, cultural, and political contexts.		
7344	Bilingualism and Biliteracy	G	3		Prereq: Not open to students with credit for 905. This course is progress graded.		
	Explores research on bilingualism, bilingual communities, and bilingual education, as well as methods for studying bilingualism in social context. Issues are viewed from global perspective, especially language policies and language ideologies.						
	Prereq: Not open to students with credit for 844.						
7348	Linguistic Diversity and Literacy: Varieties of English and Education	G	3				
	Explores variation in English and its implications for literacy education, focusing on global Englishes, U.S. vernaculars, and English-based Creoles. Course considers use of research for school testing and for the teaching of Academic English.						
	Prereq: Not open to students with credit for 848.						

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7432	The Ethnography of Literacy and Language II	G	4
Building on the first course of this two-course sequence, this course provides students experience in doing their own research by focusing on data gathering, fieldwork issues, data analysis, and writing aspects of the ethnographic research process.			
Prereq: 7431 (905), or permission of instructor. Not open to students with credit for 925.10.			
7500	Teacher Leadership in Teaching Digital Writing	G	2
Prepares teachers and other educators to conceptualize and deliver teacher education for the integration of digital writing in K-12 classrooms. Through a series of face-to-face and online interactions, participants develop a portfolio of digital writing, a theoretical framework for the use of digital writing in instruction, and a research-based framework for professional development.			
Prereq: 7393, or permission of instructor.			
7620	English as an International Language: Theory and Practice	G	3
Introduces students to the perspective of EIL (English as an International Language) and helps them to think critically about global English in use and English language teaching practices from the viewpoint of EIL.			
7645	Issues and Research in Foreign Language Testing and Assessment	G	3
Focuses on theories and practices for testing and assessing the knowledge and skills of second language learners. Topics include constructing tests and assessments, validity, reliability, grading, and test score interpretation test scores.			
Prereq: Enrollment in a graduate program in T&L or graduate non-degree program. Not open to students with credit for 963.09.			
7701	Mathematics Teaching and Learning in Elementary and Middle Schools	G	3
Provides elementary or middle school teachers with skills and knowledge that will strengthen their teaching of mathematical content knowledge and process skills.			
Prereq: Not open to students with credit for 812.			
7705	Cognition and Socio-Cultural Issues in School Mathematics	G	2
To be successful educators, participants need to have knowledge of child development, child psychology, and influences on student learning such as cultural diversity, limited English proficiency, gender, and physical challenges.			
Prereq: Not open to students with credit for 721.01.			
7706	Science and Early Childhood Education	G	3
The nature, scope, and role of science experiences in the learning and development of young children; integration and application of current developments; theory and research in science with early childhood education.			
Prereq: Not open to students with credit for 852.			
7711	K-6 Number and Algebra	G	2
Students will understand concepts such as number, number sense, variable, and equality through an opportunity to learn at a deeper level and to examine instructional strategies to help children.			
Prereq: Not open to students with credit for 711.			
7712	K-6 Measurement and Geometry	G	2
Students will understand concepts such as spatial sense, units of measure, and work with two- and three-dimensional objects through an opportunity to learn at a deeper level and to examine instructional strategies to help children.			
Prereq: Not open to students with credit for 711.			
7713	K-6 Data Analysis and Probability	G	2
Students will understand concepts such as chance and possible outcomes and predicting events as likely or unlikely, and testing predictions, and representational skills to depict and analyze data sets.			
Prereq: Not open to students with credit for 711.			
7715	Learning Progressions in Mathematics Education	G	3
Examine the construction, use, and research on learning progressions in mathematics education.			
Prereq: Not open to students with credit for 742.			
7716	Conceptual and Procedural Knowledge in Mathematics Education: Theory, Research, and Controversy	G	3
Examine research on students' learning of conceptual and procedural knowledge. We will carefully examine the nature of each type of knowledge, how they are acquired, how they are used, and how they are related.			
7717	Teaching Mathematics	G	3
Designed to provide an expanded view of the teaching of mathematics in grades 7-16 and current theories regarding best practices.			
Prereq: Not open to students with credit for 802.03.			
7718	Student Learning Processes in Mathematics	G	3
Student cognition and learning. The topics of arithmetic, algebra and geometry will be used to explore issues of student thinking. We will investigate how the nature of these topics affect students' reasoning and problem solving and thinking.			
Prereq: Not open to students with credit for 802.05.			

7719	Providing Professional Development in Mathematics Education	G	2
Require teachers to develop a professional development program that will provide them the opportunity to implement and reflect upon this development as a final assessment of their endorsement.			
Prereq: Not open to students with credit for 714.			
7723	Learning Progressions in Science Education	G	3
Learning Progressions represent promising frameworks for organizing assessments, instruction, and curriculum around theories about how students learn. The course will examine current research to explore theories and practice on learning progressions.			
Prereq: Not open to students with credit for 752.			
7724	Teaching Evolution in Schools	G	3
Focuses on issues, alternative practices, and curricular approaches related to teaching evolution in public schools. Research, court cases, and policies related to the teaching of evolution are examined.			
Prereq: Coursework in Evolutionary Biology, or teaching licensure in life science; or permission of instructor. Not open to students with credit for 875.			
7725	The Nature of Science and Implications for Science Teaching	G	3
Focuses on the nature of science and scientific knowledge from philosophical, historical, and sociological perspectives, examines the implications for science teaching at all levels, with particular emphasis on K-12 public education.			
Prereq: Not open to students with credit for 877.			
7726	STEM Education in Informal Settings	G	3
Provides STEM educators with experiences to develop skills, content knowledge, professional knowledge, assessment strategies, and integration skills to maximize learning of all students in informal STEM settings.			
Prereq: Not open to students with credit for 880.			
7731	Multimedia Tools For STEM Education	G	3
Introduction to a wide variety of multimedia tools for use in STEM Education. The tools are constantly changing but some of the areas included are sensors, data collection, graphics, animation, presentation, audio, video, and multimedia authoring.			
Prereq: Not open to students with credit for 735. Repeatable to a maximum of 9 cr hrs.			
7732	Robotics and Automation for STEM Educators	G	3
An introduction to robotics and automation systems, their applications, and methods of teaching about and with them. Will include experiences related to the design, selection, set-up, and programming of robotic and automation systems.			
Prereq: Not open to students with credit for 938.21.			
7741	Advanced Study of Learning and Cognition in STEM	G	3
Theories of learning and cognition as applied to learning, teaching and research in the STEM Education areas. Additional focus may be on affective issues.			
Prereq: Not open to students with credit for 721.			
7744	Problem Solving in STEM	G	3
Help students gain a deeper understanding of the process of mathematical problem solving from an epistemological standpoint. Current theories and perspectives associated with teaching and learning problem solving will be studied.			
Prereq: Not open to students with credit for 802.04.			
7745	Classroom Discourse in STEM Learning	G	3
Theory and practice on discourse patterns in STEM classrooms, including speaking, reading and writing to learn STEM subject matter in schools or colleges.			
Prereq: Not open to students with credit for 802.			
7749	History, Future, and Practical Applications of Concept Inventories in STEM Education	G	3
Introduction to creation, validation, evaluation and application of concept inventories in STEM education; a gateway course for future academic career in both STEM and education.			
Prereq: Not open to students with credit for 610.			
7999	Thesis Research	G	1 - 15
Research for thesis purposes only.			
Repeatable to a maximum of 40 cr hrs or 12 completions. This course is graded S/U.			
8001	Discourse Analysis and Educational Research I	G	4
Introduction to discourse analysis in educational research, theories, field work, data collection, analytic procedures including video and audio analysis, and ethics. First course of two course sequence.			
Prereq: Permission of instructor. 8001 and 8002 must be taken in the same academic year. Not open to students with credit for 933. Repeatable to a maximum of 8 cr hrs. This course is progress graded.			
8002	Discourse Analysis and Educational Research II	G	4
An in-depth exploration and application of discourse analysis theories and procedures for the analysis and interpretation of video, audio, and textual data collected in field-based educational research. This is the second course of two courses.			
Prereq: Permission of instructor. 8001 and 8002 must be taken in the same academic year. Not open to students with credit for 934. Repeatable to a maximum of 8 cr hrs.			

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8003	Theorizing and Researching Teaching and Learning	G	4	
	Examines how learning and teaching have been theorized and researched and provides an opportunity for students to begin conceptualizing their own studies. Emphasis is placed on teaching and learning as contextualized processes.			
	Prereq: Not open to students with credit for 975, 976, and 977.			
8010	Critical Discourse Analysis	G	3	
	Explores perspectives on discourse analytical research that primarily studies the way social power abuse, dominance, and inequality are enacted, reproduced, and resisted by text and talk in social and political contexts.			
	Prereq: Must have taken at least 1 PhD level course. Not open to students with credit for 933.			
8015	Diversity and Equity in Education	G	4	
	Provides an overview of the pervasive individual, epistemological, structural, systemic, and institutional dimensions and complexities of equity, diversity and multiculturalism.			
	Prereq: Not open to students with credit for 976.			
8020	Critical Race Theory in Education	G	3	
	Advanced doctoral seminar on Critical Race Theory and its application in education.			
	Prereq: Not open to students with credit for 977.			
8081	Introductory Seminar: Applied Developmental Science in Education	G	3	
	An introductory professional seminar for doctoral students seeking the Interdisciplinary PhD Specialization in Applied Developmental Science in Education (ADS-E).			
	Cross-listed in EducSt.			
8082	Capstone Seminar: Applied Developmental Science in Education	G	3	
	A capstone professional seminar for doctoral students enrolled in the Interdisciplinary PhD Specialization in Applied Developmental Science in Education (ADS-E).			
	Prereq: 8081 or EducSt 8081. Cross-listed in EducSt.			
8301	Research and Theory on Adolescent, Post-Secondary, and Community Literacies	G	3	
	Critical examination of trends and issues in research and theory on adolescent, post-secondary, and community literacies.			
8306	African American Language and Literacies	G	3	
	Examination of research and theory in African American language and literacies studies.			
	Prereq: Credit for at least one Doctoral-level course. Not open to students with credit for 906.			
8307	History of Children's and Young Adult Literature	G	3	
	A seminar focusing on the history of American and English Children's literature from earliest times to the present.			
	Prereq: Not open to students with credit for 907.			
8309	History of Theory and Practice in Literacy	G	2	
	Explores the historical bases of current literacy practices and theoretical perspectives.			
	Examines cultural and political ideologies that have influenced theory, research and instructional practice.			
	Prereq: Not open to students with credit for 909.			
8311	Research in Emergent Literacy	G	3	
	Current topics and issues concerning the development of literacy in young children, particularly the achievement of emergent literacy and the transition from emergent to early literacy, generally pre K through 1st grade.			
	Prereq: Not open to students with credit for 911.			
8313	Research and Theory in Written Composition	G	3	
	Considers writing in variety of contexts-primary school, middle school, high school, college, and the larger community--from the perspective of research; broader issues of how attention to culture and context can provide more responsive instruction.			
	Prereq: Not open to students with credit for 913 and 914.			
8334	Research Methods for Literature for Children and Young Adults	G	4	
	Immerses students in the methodology, practice, and application of conducting academic research in the field of Literature for Children and Young Adults. The class will aid in their professionalization by having students explore an array of peer-reviewed journals, a variety of major national as well as international conferences, and current scholarly trends in the field.			
8363	Sociolinguistics and Language Education	G	3	
	Surveys foundational theories, issues, & methodologies in sociolinguistics. We examine how these theoretical insights & empirical approaches have been used to study & illuminate topics of concern to language education.			
	Prereq: Not open to students with credit for 863.			
8420	Professional Seminar in Reading and Literacy in Early and Middle Childhood Education	G	3	
	In this professional seminar, students will build professional knowledge regarding research and scholarship in reading and literacy education and become familiar with the Reading and Literacy in Early and Middle Childhood specialization, faculty, and culture. This is a required course for RLEMC doctoral students; the course is also appropriate for non-RLEMC students with aligned research foci.			
	Repeatable to a maximum of 9 cr hrs.			
8421	Guided Survey of Research in Reading	G	3	
	Explores various investigations of reading and literacy. It examines major trends in reading/literacy research and exemplary studies that address major topics, including methodological issues, basic processes, and instructional practices.			
	Prereq: Not open to students with credit for 921. Repeatable to a maximum of 6 cr hrs.			
8425	Understanding the Reading Process	G	3	
	Focuses on the young child as a learner and on the reading process itself. Explores and extends personal models of the reading process and grounds theory building in close observations of young children reading.			
8426	Advanced Study in Reading Difficulties of Young Children	G	3	
	Current thinking on reading and learning processes relative to young, low progress, "at risk" students, and seminal research and theories which have influenced the reading difficulties field will be related to students who are difficult to teach.			
8427	Learning and Teaching Reading Comprehension	G	3	
	Designed to provide doctoral students knowledge of the research on reading comprehension.			
8610	Second Language Acquisition	G	3	
	Provides an overview of theories and research in the field of second language acquisition (SLA). We examine the development of SLA as a field, exploring cognitive, linguistic, sociocultural, and critical research perspectives.			
	Prereq: Not open to students with credit for 703.09.			
8615	Classroom-Oriented Second Language Research	G	3	
	Aims to help doctoral students to understand the steps involved in designing a qualitative second-language (L2) research project, to critically evaluate published research, and to consider key issues in designing their own L2 study.			
	Prereq: Not open to students with credit for 916.			
8617	Issues in Second Language Learning	G	3	
	Lecture and discussion course focused on current issues related to second language acquisition research.			
	Prereq: 8610. Not open to students with credit for 917.			
8620	Foreign and Second Language Teacher Education	G	3	
	Deals with foreign and second language teacher education program designs with a focus on goals, objectives, programming, and accreditation models. It is designed for those who are majoring in either TESOL or foreign language education.			
	Prereq: Grad admission as a foreign and 2nd lang ed program major or in an equiv. program related to global ed, multicultural ed, or a foreign language major in one of the OSU lang. dept (e.g., Spanish, German, Chinese). Not open to students with credit for 924.			
8625	First Year Doctoral Seminar in Foreign Language Education	G	3	
	Focuses on scholarly discourse communities, contemporary research priorities, programmatic themes and research approaches related to foreign language education.			
	Prereq: Not open to students with credit for 937.45.			
8630	The Dissertation Experience in Foreign Language Education	G	3	
	Designed to meet the needs of students who are approaching the dissertation research and writing experiences.			
	Prereq: Not open to students with credit for 938.45.			
8635	Research on Second Language Reading and Writing	G	3	
	Explores research and research practices related to Second Language reading and writing.			
	Prereq: Not open to students with credit for 960.			
8640	Seminar in Foreign Language Education	G	3	
	A special topics course that examines theories and research related to a specified topic related to foreign language education.			
	Prereq: Not open to students with credit for 962.			
8701	Advanced Concepts in Elementary School Science Education	G	3	
	Helps doctoral students develop the knowledge and skills necessary to critically analyze reports of educational research, specifically for elementary science education.			
	Prereq: Not open to students with credit for 920.			
8711	Current Issues and Trends in STEM Education	G	3	
	An introductory seminar for new STEM education doctoral students and other advanced graduate students seeking increased familiarity with STEM education research communities.			
8721	Advanced Study of Thinking, Learning, and Assessment in Mathematics Education	G	3	
	Develop a deep, foundational knowledge of various theories and types of research on mathematical thinking and learning. Students will also develop knowledge of ways of assessing mathematical knowledge, thinking, and reasoning.			
	Prereq: Not open to students with credit for 938.26.			
8722	Advanced Study of Thinking, Learning, & Assessment in Science Education	G	3	
	Focuses on advanced skills and knowledge used to understand how thinking, learning, and assessment occur in science education programs.			
	Prereq: Not open to students with credit for 938.27.			

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8731	Teaching and Teacher Education in STEM Education	G	3
Students develop the knowledge and skills necessary to critically analyze reports of educational research, current thinking and perspectives, critical issues associated with science and mathematics teacher education and teacher preparation.			
Prereq: Not open to students with credit for 999.23.			
8741	History of Curriculum in STEM Education	G	3
Familiarizes students with the changing curriculum in school mathematics. It will examine the history and evolution of K-16 STEM curricula in the United States with particular emphasis on the past century (1890 to 2010).			
Prereq: Not open to students with credit for 937.26.			
8742	History of Curriculum in Science Education	G	3
Focuses on the forces that have shaped the emergence of contemporary curriculum patterns in science education, with particular emphasis given to the trends, issues, and policies that have shaped science curriculum design and development.			
Prereq: Not open to students with credit for 937.27.			
8743	History of Curriculum in Technology/Engineering Education	G	3
The history of curriculum development in technology and engineering education from the elementary grades to the graduate level.			
Prereq: Not open to students with credit for 937.21.			
8751	Survey and Critical Analysis of Research in STEM Education	G	3
Examines critical issues associated with conducting and analyzing research in STEM education including formulating and evaluating the following; research questions, methodologies, data collection instruments, and analysis techniques.			
8890	Advanced Seminar	G	1 - 4
Advanced graduate seminar focusing on educational scholarship.			
Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 10 completions.			
8998	Research Apprenticeship in Teaching and Learning	G	2 - 8
The process of researching teaching and learning are explored through working with a faculty member on an established research project.			
Prereq: Permission of PhD coordinator required. Repeatable to a maximum of 30 cr hrs or 15 completions. This course is graded S/U.			
8999	Research	G	1 - 15
Research for dissertation purposes only.			
Repeatable to a maximum of 40 cr hrs or 12 completions. This course is graded S/U.			

Educational Studies

5193	Individual Studies: Educational Studies	U G	1 - 15
Individual study projects.			
Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions.			
This course is graded S/U.			
5194	Group Studies: Educational Studies	U G	1 - 15
Group study projects.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.			
This course is graded S/U.			
5765	Grant Writing	U G	3
Provides an overview of the grant writing process.			
Repeatable to a maximum of 6 cr hrs.			
5798.01	Study Tour: Domestic	U G	1 - 5
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Repeatable for different titled study tours only.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.			
This course is graded S/U.			
5798.02	Study Tour: Foreign	U G	1 - 5
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions for different titled study tours only. This course is graded S/U.			
5880.01	Interprofessional Education: Seminar on Interprofessional Care	U G	2
Develop and practice skills necessary for interprofessional collaboration in solving complex human problems. Case based.			
Prereq: Jr standing, or above. Repeatable to a maximum of 4 cr hrs. Cross-listed in HthRhSc and Nursing and MedColl 6880.01.			
5880.03	Interprofessional Education: Seminar on Ethical issues Common to the Helping Professions	U G	2
Ethical issues common to the professions (e.g., rapidly advancing technology, death/dying, privacy/confidentiality, professional boundaries). Case based. Limited to students enrolled in Health and Rehabilitation Science, Education, Nursing, and the College of Medicine.			
Prereq: Jr standing or above. Repeatable to a maximum of 4 cr hrs. Cross-listed in HthRhSc and Nursing and MedColl 6880.03.			

5880.04S	Interprofessional Education: Collaboration in Urban Communities	U G	3
Students, faculty, community residents and professionals offer research-based solutions to community identified challenges. Focus on community asset mapping, best professional and interprofessional practices, and teamwork.			
Prereq: Jr standing or above. Repeatable to a maximum of 6 cr hrs. Cross-listed in HthRhSc and Nursing.			
5892	Colloquia, Workshops and Special Topics: Educational Studies	U G	1 - 8
Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.			
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			
6891	Preseminar in Educational Studies	G	3
An introduction to the areas of research in the Department of Educational Studies. This is a core requirement for doctoral students.			
Prereq: Admission to a doctoral program in Educational Studies.			
6892	Educational Policy and Inequality in Social and Cultural Context: Integrating Research Traditions	G	3
An introductory seminar course addressing issues of race, ethnicity, language, class, gender, sexuality, and disability as they influence and are influenced by educational policy processes.			
This is a core requirement for doctoral students.			
Prereq: Admission to a doctoral program in Educational Studies.			
7189	Planned Field Experience: Foreign	G	1 - 15
Planned professional teaching experience under supervision in a public school or other educational agency.			
Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions.			
This course is graded S/U.			
7406	Course Design for Higher Education	G	3
Students will gain an understanding of how to design a course based on goals and objectives.			
They will begin the work of planning, within a community of peers, and will leave with the basic structure for a course and the beginnings for materials. Participants will share experiences and ideas, design and implement instructional activities, and develop strategies for assessing teaching and learning.			
This course is graded S/U.			
7717	Interdisciplinary Perspectives on Developmental Disabilities	G	3
Introduction to the psychosocial, medical, and educational implications of developmental disabilities.			
Prereq: Permission of instructor. Not open to students with credit for EduPAES 717.01 or 717.03. Cross-listed in HthRhSc, SocWork, Psych, Nursing, and SphHrng.			
7718	Interdisciplinary Perspectives on Autism Spectrum Disorders	G	3
Teaches the analytical skills necessary to comprehend and formulate an interdisciplinary framework relating to major scientific and theoretical perspectives in autism spectrum disorders.			
Prereq: Permission of instructor. Not open to students with credit for EduPAES 717.01 and 717.02. Cross-listed in HthRhSc, SocWork, Nursing, Psych, and SphHrng.			
7897	Special Topics: Educational Studies	G	1 - 5
Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments.			
Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.			
7999	Thesis Research: Educational Studies	G	1 - 18
Research related to the Master's thesis.			
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions.			
This course is graded S/U.			
8081	Introductory Seminar: Applied Developmental Science in Education	G	3
An introductory professional seminar for doctoral students seeking the Interdisciplinary PhD Specialization in Applied Developmental Science in Education (ADS-E).			
Cross-listed in EduTL.			
8082	Capstone Seminar: Applied Developmental Science in Education	G	3
A capstone professional seminar for doctoral students enrolled in the Interdisciplinary PhD Specialization in Applied Developmental Science in Education (ADS-E).			
Prereq: 8081 or EduTL 8081. Cross-listed in EduTL.			
8189	Planned Field Experience: Educational Studies	G	1 - 15
Planned professional teaching experience under supervision in a public school or other educational agency.			
Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions.			
This course is graded S/U.			
8191	Research Apprenticeship: Educational Studies	G	1 - 12
Internship experiences in research, development, or evaluation settings.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.			

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8193 Advanced Individual Studies: Educational Studies	G	1 - 15	6732 Theories of Professional Counseling	G	3
Advanced individual projects. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.			Theories of change, personality development, and methods to foster client growth. Prereq: Admission to Counselor Education program, and permission of instructor. Concur: 6733. Not open to students with credit for EduPAES 774.		
8194 Advanced Group Studies: Educational Studies	G	1 - 15	6733 Techniques of Individual Counseling	G	1½
Advanced group projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.			Techniques to facilitate the individual counseling process for client growth. Prereq: Admission to Counselor Education program, and permission of instructor. Concur: 6732. Not open to students with credit for EduPAES 800.01.		
8895 Seminars: Educational Studies	G	2 - 5	6734 Assessment in Counseling	G	3
Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.			Studies that provide an understanding of individual and group approaches to counseling assessment and evaluation. Prereq: Admission to Counselor Education program, and permission of instructor. Not open to students with credit for EduPAES 767.		
Educational Studies: Counselor Education					
2189.01S First Education Experience Program-International	U	3	6735 Counseling Across the Lifespan	G	2
The main purpose of this course is to provide opportunities for students to explore education as a possible career path via a combination of field and seminar requirements. This is also an opportunity to engage in community service. Students spend time in preK-12 school-based settings, interacting with various professionals (e.g., teachers, school psychologists, school counselors) and students. Repeatable to a maximum of 12 cr hrs.			Developmental issues across the lifespan, including identity development, diversity, values programming, poverty, and events that alter the developmental trajectory such as trauma. Prereq: Admission to Counselor Education program, and permission of instructor.		
2189S First Education Experience Program (FEEP)	U	3 - 5	6736 Lifespan Career Development and Counseling	G	2
Provides opportunities for students to explore education as a possible career path via a combination of field and seminar requirements. Students spend time in local, public PreK-12 school-based settings, interacting with various professionals and students. GE service learning course.			Study of the career development process across the lifespan and concurrent counseling implications. Prereq: Admission to Counselor Education program, and permission of instructor. Not open to students with credit for EduPAES 779.		
2271 Seminar: Self-Career Development	U	2	6737 Group Counseling	G	3
Designed to provide opportunities for self-exploration and skill development; exploration of and clarification of vocational and educational interests. Prereq: Not open to students with credit for EduPAES 270.01. This course is progress graded (S/U).			Study of group counseling theories and developmental processes for therapeutic and psychoeducational groups. Prereq: 6731 and 6732, or EduPAES 6731 and 6732, and permission of instructor. Concur: 6738. Not open to students with credit for EduPAES 775.		
2272 Seminar: Personal Growth to Increase Career Competencies	U	2	6738 Techniques of Group Counseling	G	1½
Designed to provide opportunities to assist in self-exploration of and clarification for more effective development beyond the level of average performance. Prereq: Not open to students with credit for EduPAES 270.02. This course is progress graded (S/U).			Experiential group participation and leadership. Prereq: 6731 and 6733, or EduPAES 6731 and 6733; and permission of instructor. Not open to students with credit for EduPAES 800.02.		
2273 Seminar: Study Skills Related to Career Goals	U	2	6739 Legal and Ethical Issues in Counseling	G	1½
Designed to assist underachieving students with their efforts to ascertain and resolve the causes of low academic productivity; attitudinal and behavioral skills emphasized. Prereq: Not open to students with credit for EduPAES 270.03. This course is progress graded (S/U).			Legal and ethical issues in professional counseling. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 926.06.		
4270 Love, Sex, and Relationships	U	3	6740 Techniques for Counseling Children and Adolescents	G	1½
Introduction to understanding healthy relationships including a focus on developing relationship skills such as communication, assertiveness, and conflict resolution, exploration of relationship styles, sex, sexuality, and a focus on developing lifelong healthy relationship skills.			Techniques to facilitate the counseling process with children and adolescents. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 776.		
5189 First Education Experience Program (FEEP)	U G	2 - 3	6831 Professional School Counseling	G	3
The purpose of this course is to provide opportunities for students to explore education settings via a combination of field and seminar requirements and to reflect on how those experiences in this course intersect with the chosen career. The students will spend time in local preK-12 school settings, interacting with various professionals and students. Prereq: Grad standing, or permission of instructor.			Foundation concepts for providing professional school counseling through comprehensive school counseling programs. Prereq: 6731, or EduPAES 6731, and permission of instructor.		
5193 Individual Studies: Counselor Education	U G	1 - 15	6931 Diagnosis of Mental and Emotional Disorders	G	3
In conjunction with the instructor, students will engage in individual study projects. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.			Study and application of the principles and practices of diagnosis according to the DSM. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 926.01.		
5271 Wellness: Achieving a Healthy Lifestyle	U G	3	7191.01 Internship in School Counseling	G	5
Study and application of a holistic approach to understanding and implementing individual wellness for healthy lifestyles.			Field internship in school counseling. Prereq: 6189.01 or 6189.02, or EduPAES 6189.01 or 6189.02, and permission of instructor. Repeatable to a maximum of 15 cr hrs.		
6189.01 Practicum In School Counseling	G	4	7191.02 Internship in Clinical Mental Health Counseling	G	5
Field practicum in school counseling. Prereq: 6731, 6732, and 6733, or EduPAES 6731, 6732, and 6733; and permission of instructor. Not open to students with credit for EduPAES 974 or 978.			Internship in clinical mental health counseling. Prereq: 6189.01 or 6189.02, or EduPAES 6189.01 or 6189.02, and permission of instructor. Repeatable to a maximum of 15 cr hrs.		
6189.02 Practicum in Clinical Health Counseling	G	4	7741 Multicultural Issues In Counseling	G	4
Practicum in clinical mental health counseling. Prereq: 6731, 6732, and 6733, and permission of instructor.			Study and application of concepts for understanding diversity of clients and self, and implications for communication and counseling practice. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 801.01.		
6731 Foundations of Professional Counseling	G	3	7742 Addictions Counseling	G	2
Foundations of professional counseling, including history and philosophy, professional associations, licensure, current settings, advocacy, collaboration, role in national emergencies, and current issues of the profession. Prereq: Admission to Counselor Education program, or permission of instructor. Not open to students with credit for EduPAES 773.			Study and application of the principles and practices of diagnosis, treatment, and referral of addiction disorders. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 928.		
7743 Family and Couples Counseling	G	2	7743 Family and Couples Counseling	G	2
			Study and application of the principles and practices of marriage, family, and couples counseling. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 927.		

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7745 Theories of Consultation	G 1½	
Study and application of concepts and practices of consultation in counseling. Prereq: 6731, or EduPAES 6731, and permission of instructor.		
7832 Current Issues in Professional School Counseling	G 3	
Study of the current issues in school counseling including student issues, schools issues, and community issues. Prereq: 6831, or EduPAES 6831, and permission of instructor.		
7932 Psychopathology, Trauma, and Crisis Counseling	G 3	
Study and application of treatment of major mental disorders, trauma, and crisis counseling. Prereq: 6731 and 6931, or EduPAES 6731 and 6931; and permission of instructor. Not open to students with credit for EduPAES 926.02.		
7933 Wellness and Prevention Counseling	G 3	
Study and application of principles and practices of wellness and prevention in counseling. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 926.03.		
7934 Theories of Counseling Supervision	G 1½	
Study and application of concepts and practices of supervision for counselors and therapists. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 926.07.		
7935 Advanced Assessment: Personality Testing	G 4	
Study and application of principles and practices of comprehensive psychological evaluations. Prereq: 6731 and 6734, or EduPAES 6731 and 6734; and permission of instructor. Not open to students with credit for EduPAES 768.		
8100 Leadership in Counselor Education	G 3	
Study and application of the principles and practices of leadership in professional counseling and counselor education. Prereq: Admission to Doc program Counselor Education, and permission of instructor. Not open to students with credit for EduPAES 926.08.		
8191.01 Doctoral Practicum in Counselor Education	G 2 - 8	
Practicum in doctoral studies in counselor education. Prereq: Admission to Doc program in Counselor Education, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.		
8191.02 Doctoral Internship: Counselor Education - Supervision	G 2 - 10	
Field experience in doctoral studies in counselor education: Supervision. Prereq: Admission to Doc program in Counselor Education, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.		
8191.03 Doctoral Internship: Counselor Education - Teaching	G 2 - 10	
Field experience in doctoral studies in counselor education: Teaching. Prereq: Admission to Doc program in Counselor Education program, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.		
8191.04 Doctoral Internship: Counselor Education - Counseling	G 0 - 10	
Field experience in doctoral studies in counselor education: Counseling. Prereq: Admission to Doc program in Counselor Education program, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.		
8191.05 Doctoral Internship: Counselor Education: Research	G 2 - 10	
Field Experience in Counselor Education: Research. Prereq: Admission to Doctoral program in Counselor Education, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.		
8193 Advanced Independent Studies: Counselor Education	G 1 - 12	
Advanced independent study in Counselor Education. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
8200 Critical Pedagogy Issues In Counselor Education	G 3	
Study and application of the principles and practices of teaching counseling in graduate counselor education programs. Prereq: Admission to Doc program in Counselor Education, and permission of instructor.		
8300 Developing a Research Identity in Counselor Education	G 3	
Study and application of principles and practices of developing a research agenda and professional scholarship in counselor education. Prereq: Admission to Doc program in Counselor Education, and permission of instructor.		
8400 Critical Research Issues in Counselor Education	G 3	
Study and application of principles and practices of research and professional scholarship in counselor education. Prereq: Admission to Doc program in Counselor Education, and permission of instructor. Not open to students with credit for EduPAES 926.04.		
8895 Seminars: Counselor Ed	G 1 - 4	
Study, discussion, and application of concepts related to doctoral study in counselor education. Prereq: Admission to Doc program in Counselor Education, and permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is graded S/U.		

Educational Studies: Cultural Foundations of Education

5194 Group Studies: Cultural Foundations of Education	U G 1 - 15
Group study projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.	
7210 Fundamentals of Curriculum	G 3
Designed to serve as an historical to contemporary overview of the field of Curriculum Studies; kindergarten through 12th grade. Prereq: Not open to students with credit for EduPL 860.	
7214 An Interpretive History of African American Education:1700 to 1950	G 3
Examination of the education of African Americans from the perspective of African American scholars from 1700 to 1950. Prereq: Not open to students with credit for EduPL 863.	
8193 Advanced Individual Studies: Cultural Foundations of Education	G 1 - 15
Advanced individual projects. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.	
8194 Advanced Group Studies: Cultural Foundations of Education	G 1 - 15
Advanced group projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.	
8206 Theories of Instruction	G 3
Advanced study of contemporary conceptualizations and innovations in our understandings of instruction, with special interest in the description of instruction as situated action. Prereq: Not open to students with credit for EduPL 869.	
8999 Dissertation or Thesis Research: Cultural Foundations of Education	G 1 - 18
Research for thesis or dissertation purposes. Prereq: Permission of instructor. Repeatable. This course is graded S/U.	

Educational Studies: Educational Administration

5193 Individual Studies: Educational Administration	U G 1 - 15
Individual study projects. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.	
5194 Group Studies: Educational Administration	U G 1 - 15
Group study projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.	
6189 Planned Field Experience and Portfolio Development	G 1 - 4
The planned field experience, coupled with portfolio development, allows students to demonstrate the knowledge and skills they develop, synthesize, and apply through standards-based work in real settings. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.	
6189.01 Field Experience: PK-6 principal licensure	G ½ - 3
The planned field experience course is the capstone experience for students in PK-6 principal licensure. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.	
6189.02 Field Experience: 4-9 principal licensure	G ½ - 3
The planned field experience course is the capstone experience for students in 4-9 principal licensure. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.	
6189.03 Field Experience: 5-12 principal licensure	G ½ - 3
The planned field experience course is the capstone experience for students in 5-12 principal licensure. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.	
6350 Introduction to Educational Administration	G 3
Introduction to the organizational setting of the school, the nature of administration, and personal decision making about careers in educational administration. This is a core course in administrator certification. Prereq: Not open to students with credit for EduPL 846 or 886.	
6356 Legal Aspects of School Administration	G 3
A study of statutory and case law, executive opinions, legal principles, and provisions relevant to educational administration, particularly in areas of student rights, personnel, finance, curriculum, contracts, property, liability, and organization. Prereq: Not open to students with credit for EduPL 952.	

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6360 School Community Relations and Politics	G 3	7881 Instructional Leadership	G 1 - 3
Principles and practice in developing and maintaining appropriate school community relationships; communication processes; decision-making patterns; politics and micro-politics of schools.		This course will provide opportunities for students analyze and evaluate the meaning, practice and impact of instructional leadership in schools. Course readings will focus on the mechanisms through which school principals lead teacher teams to improve instruction by developing internally coherent systems of collaboration and common understandings of effective teaching practice.	
Prereq: Not open to students with credit for EduPL 845 or 953.		Prereq: Enrollment in BRIGHT MBA. Repeatable to a maximum of 3 cr hrs. This course is progress graded.	
6362 Strategic Human Capital Management for P-12 Administration	G 3	7882 Theories of Instruction	G 1
Provides a foundation of human resource function in theory and practice; explores laws, policies, and practices related to the effective management of human capital management in P-12 education.		This course will explore three different conceptual frameworks for learning developed over the course of the twentieth century, including socio-cognitive, soci-historical and cultural-historical, and instruction using technologies.	
Prereq: 6350 or EduPL 6350. Not open to students with credit for EduPL 955 or 949.		Prereq: Enrollment in BRIGHT MBA program.	
6366 School Finance and Business Administration	G 3	7883.01 Culture & Efficacy In Education	G 1½
A study of K-12 education finance with special emphasis on public policy and business administration. Criteria for evaluating taxation and models for making business decisions are included.		The course will provide participants with the opportunity to develop a multicultural awareness and develop cultural competency as they explore the impact of an increasingly diverse society in the United States. Particular emphasis will be placed on gaining self-awareness around issues of cultural diversity as well as expanding one's knowledge base in the area of diversity.	
Prereq: Not open to students with credit for EduPL 956.		Prereq: Enrollment in BRIGHT MBA. Concur: 7883.02.	
6372 Educational Technology Leadership and Administration	G 3	7883.02 Culture & Efficacy In Education	G 1½
Overview of the uses of technology in schools. Prepares leaders with knowledge and skills to help shape, evaluate, and supervise technology initiatives in educational organizations.		The course will provide participants with the opportunity to develop a multicultural awareness and develop cultural competency as they explore the impact of an increasingly diverse society in the United States. Particular emphasis will be placed on gaining self-awareness around issues of cultural diversity as well as expanding one's knowledge base in the area of diversity.	
Prereq: Not open to students with credit for EduPL 707.		Prereq: 7883.01, and enrollment in BRIGHT MBA.	
6374 Database Decision Making for School Leaders	G 3	7884 Curriculum Design	G 1½
Designed to assist building leaders in their understanding and ability to systematically use a variety of student and school related data to guide educational decision-making. This course will also emphasize ways in which school leaders can collaboratively work with stakeholders to use data to inform the development of a school vision.		This course is a compilation of curriculum history, issues, and development, primarily to facilitate an understanding of what curriculum means, looks like, and how it can be created, implemented, critiqued, assessed and modified for use in classrooms.	
Prereq: 6350.		Prereq: Enrollment in BRIGHT MBA program.	
7189 Planned School District Field Experience	G 2 - 5	7885 School Law	G 1½
The candidate synthesizes and applies knowledge and skills through substantial, sustained, standards-based field work, planned and guided cooperatively by the licensure adviser and school district.		The course is designed to help school leaders explore the interplay of law, policy, and educational leadership and practice.	
Repeatable to a maximum of 8 cr hrs or 2 completions. This course is progress graded (S/U).		Prereq: Enrollment in BRIGHT MBA.	
7320 Appreciative Inquiry	G 3	7886 Data Driven Improvement for School Leaders	G 1 - 2
Exploration of appreciative inquiry as a research methodology, change process, and dynamic means of facilitating collective action among small and large groups.		This course is designed to assist school leaders in their understanding and ability to systematically use a variety of school data to impact teaching, learning, and decision-making for the purpose of increasing student success. The course also focuses on how school leaders can create conditions that foster effective data use.	
Repeatable to a maximum of 6 cr hrs.		Prereq: Enrollment in BRIGHT MBA program. Repeatable to a maximum of 2 cr hrs. This course is progress graded.	
7350 Educational Leadership, Learning and Teaching	G 3	7887 Literacy	G 1
Applies theory from classroom management, learning, motivation, and teaching to the practice of PreK-12 education.		This course presents an overview of reading achievement of students in American schools and instructional strategies for teaching reading skills in low resource schools with high poverty populations.	
Repeatable to a maximum of 6 cr hrs.		Prereq: Enrollment in BRIGHT MBA program.	
7356 Instructional Leadership and Supervision	G 3	7888 Academic Motivation for School Administrators	G 1
Instructional leadership requires the development of an organization and its members in support of its teaching and learning mission.		This course is designed to introduce school administrators to current theory and research on academic motivation.	
Prereq: Not open to students with credit for EduPL 726 or 891.01.		Prereq: Enrollment in BRIGHT MBA program.	
7359 Leadership, Inquiry, and Ethics	G 3	7897 Special Topics: Educational Administration	G 1 - 5
Authentic learning leading to application to practice in educational organizations. This is a core course in administrator certification. Learning promotes three primary principles: leadership, inquiry, and ethics.		Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments.	
Prereq: Not open to students with credit for EduPL 891.02.		Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.	
7362 Board Politics and Public Relations	G 3	7999 Thesis Research: Educational Administration	G 1 - 18
Explores board of education and superintendent roles and responsibilities in the governance of the school district and the dynamic nature of board-superintendent relationships.		Research for master's thesis purposes only.	
Prereq: Not open to students with credit for EduPL 962.		Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.	
7364 Finance of School Districts	G 3	8193 Advanced Individual Studies: Educational Administration	G 1 - 15
Explores the collective dimensions of leadership and the larger context of school finance that emphasizes economics and politics.		Advanced individual projects.	
Prereq: Not open to students with credit for EduPL 724.		Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.	
7366 Administrative Responsibilities, Policy, and Perspectives	G 3	8194 Advanced Group Studies: Educational Administration	G 1 - 15
Role of the superintendent in standards-based education reform and the improvement of the instructional program to serve diverse student needs effectively and equitably.		Advanced group projects.	
Prereq: Permission of instructor. Not open to students with credit for EduPL 725 or 843.		Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.	
7368 Educational Facility Planning	G 3	8200 Place, Space and Leadership	G 3
Introduces knowledge, dispositions, and performances necessary for planning, designing, and building schools; explores notions of architectural quality, aesthetic experience, and school as public place.		The place and space are fundamental dimensions of the human experience. In this course, we will examine the ways in which place and space are produced and inhabited by people in various contexts and we will consider how place and space help shape experiences of belonging, citizenship, and community in everyday life.	
Prereq: Not open to students with credit for EduPL 958.			
7374 Theory and Foundations of Supervision	G 3		
Addresses theory, concepts, and research related to supervision and is intended to develop comprehension of the major points-of-view, elements, and constructs that influence the practice of supervision.			
Prereq: Not open to students with credit for EduPL 866.			

Educational Studies: Educational Administration 153

8201	Community-Based Research and Evaluation in Educational Administration	G	3	
	This course focuses on identifying, understanding and addressing problems of practice at the community level. Through class discussions and assignments, students will become familiar with the paradigm shift, developing community inquiry through problem mapping and evaluation and community based participatory research (CBPR).			
8202	Positive Psychology and Educational Administration	G	3	
	This course helps present and future educational leadership understand the pressure on educational systems from the economic, technological, social, cultural, and political conditions of contemporary society, while exploring their implications and ways to enhance positive and effective leadership.			
8310	Educational Change	G	3	
	The study and practice of strategies for implementing change in schools, including the development of shared vision, missions, goals, and interventions. Prereq: Not open to students with credit for EduPL 726.			
8317	Legal Aspects of Special Education Administration	G	3	
	Legislative, executive, and judicial policy and action pertaining to the rights of students with special needs, with a focus on the responsibilities of school administrators and state officials. Prereq: Not open to students with credit for EduPL 963.			
8318	Seminar on Human Resources in Education	G	3	
	Expand knowledge and skills about human resource function in theory and practice; analyze and critique laws, policies, and practices related to the effective management of, and professional development for, human capital management in education.			
8354	Legal Research In Educational Administration	G	3	
	Inquiry into the field of Educational Administration using Legal Research Methodology. Part of the doctoral core in Educational Administration. Prereq: Not open to students with credit for EduPL 971.			
8356	Economic Viewpoints in Education	G	3	
	A study of K-12 education with emphasis on economic viewpoints about schooling. Human capital theory asserts that education is an investment. Signaling theory asserts that formal education is credentialing. Prereq: Admission to Educational Administration Doctoral Cohort. Not open to students with credit for EduPL 916.			
8359	Organizational Behavior: Theory and Research	G	3	
	Analysis of relevant research and organizational theory for understanding schools. This is the first course in the Ph.D. doctoral core in educational administration. Prereq: 6350 or EduPL 6350 (846). Not open to students with credit for EduPL 959.			
8361	Social and Political Contexts of Education	G	3	
	Examines societal conditions - economic, technological, social, cultural, and political – that exert intense pressures on the educational system and pose great challenges to educational leaders. Prereq: Not open to students with credit for EduPL 961.			
8895	Seminars: Educational Administration	G	2 - 5	
	Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.			
8997	EdD Final Project Writing	G	1 - 3	
	Writing the final project for the EdD. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.			
8999	Dissertation or Thesis Research: Educational Administration	G	1 - 18	
	Research for thesis or dissertation purposes only. Prereq: Permission of instructor. Repeatable. This course is graded S/U.			
7225	Inquiry into Education Policy Research	G	3	
	Introduction to guiding principles for policy inquiry and analyses. The focus is on learning analytical vocabularies and approaches distinctive to policy inquiry. Students learn to read and think critically and creatively about public policy problems and solutions through the lens of research.			
7897	Special Topics: Educational Policy	G	1 - 5	
	Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments. Prereq: Grad standing or registration in one of the professional schools. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.			
7999	Thesis Research: Educational Policy	G	1 - 3	
	Research for master's thesis purposes. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.			
8193	Advanced Individual Studies: Educational Policy	G	1 - 15	
	Advanced individual study. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.			
8209	Cultural Processes in Education	G	3	
	Examines the role of cultural processes in educational practices at school, after school, in the home, and on the job. Explores how culture, ethnicity, and power operate in formal and informal educational settings. Prereq: Not open to students with credit for EduPL 909.			
8312	Governance and Control in American Education	G	3	
	A critical examination of national, state, and local politics and governance in American education.			
8352	Educational Policy in Democratic Society	G	3	
	Focuses on conceptions of democracy, the democratic aims of public education, and the processes of developing, implementing and analyzing policies that further those aims. Prereq: Not open to students with credit for EduPL 922.			
8895	Seminars: Educational Policy	G	2 - 5	
	Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.			
8999	Dissertation or Thesis Research: Educational Policy	G	1 - 3	
	Research for thesis or dissertation purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.			
	Educational Studies: Educational Psychology			
1159	Online Learning Strategies and Skills	U	2	
	Explores how to use the web for a successful college experience. Covers navigating online resources, communicating academic content, and enhancing learning via the web. This course has been peer reviewed and is officially recognized by Quality Matters as meeting the standards of a quality online course. For more information, visit www.qmprogram.org . Prereq: Not open to students with credit for EduPL 159.			
1259	Individual Learning and Motivation: Strategies for Success in College	U	3	
	Teaches learning and motivation strategies to help students manage time, improve grades, and achieve college success. Prereq: Not open to students with credit for EduPL 259.			
1359	Technology-Enhanced Learning Strategies	U	3	

Educational Studies: Educational Policy

5217	Comparative Perspective on Education, Globalization, and National Development	U G	3
Examines comparative perspectives on the role of educational processes in national development and globalization, including "out of school" contexts that impact where and what children learn.			
6000	Introduction to Educational Policy	G	3
Introduction to the educational policy process and common dilemmas in educational policy.			
7100	Education Policy Writing	G	3
Develop policy writing skills, including the translation of educational research to policy briefs, the development of policy scholarship, and understanding the nuances of publication in various policy venues.			
7224	Educational Policy Analysis in Contemporary Culture	G	3
Examines key theories and research perspectives on educational policy. Explores major policy processes and agendas unfolding at the time of the course. Introduction to methods for studying educational policy.			
Prereq: Not open to students with credit for EduPL 824.			

2059	Becoming a Self-Regulated Learner	U	2
This course will build strategies and motivation to overcome recent academic challenges and prepare for success in the future. Main topics we will cover include self-regulation, active learning, studying, using resources, planning, goal setting, and time management. Our entire course is geared toward helping students become self-regulated learners.			
2309	Psychological Perspectives on Education	U	3
This course deals with the major theories of human development, motivation and learning. Planning of instruction, teaching strategies, assessment and classroom management are examined. Authentic pedagogical practices are used to gain an understanding of the teaching and learning process.			
Prereq: Not open to students with credit for EduPL 309.			
5193	Individual Studies: Educational Psychology	U G	0 - 15
Individual study projects.			
Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions.			
This course is graded S/U.			

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5194	Group Studies: Educational Psychology	U G	1 - 15	
	Group study projects.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.			
	This course is graded S/U.			
5401	Adolescent Learning and Development in School Contexts	U G	3	
	Provides students with an introduction to the field of adolescent development and psychology and applications to education. Teacher education licensure course.			
	Prereq: Not open to students with credit for EduPL 607.			
5892	Workshops: Educational Psychology	U G	1 - 8	
	Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.			
	Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			
7401	Controversies, Myths, and Dilemmas in Education	G	3	
	This course examines research on classroom learning and teaching and educational policy, and considers the implications of this research for teaching practice. Course will examine the research evidence behind school- and classroom-level practices, particularly focusing on issues on which opinion is sometimes sharply divided.			
	Prereq: Not open to students with credit for EduPL 803.			
7402	Educational Psychology: Cognition, Learning, and Instruction	G	3	
	Examination of theory and research about cognitive perspectives on classroom learning and instruction, particularly research on the teaching and learning of school subjects.			
	Prereq: Not open to students with credit for EduPL 880.			
7403	Motivation in Learning and Teaching	G	3	
	Examines research and theory about motivation to learn in academic settings, including studies of goal theory, social cognitive approaches, and teaching practices.			
	Prereq: Not open to students with credit for EduPL 901.			
7404	College Teaching	G	3	
	Designed as initial preparation for instruction at the college level; focuses on the generic skills, strategies, and issues common to university teaching. Open to grad students committed to teaching in any area or discipline at the college level.			
	Prereq: Not open to students with credit for EduPL 851. This course is graded S/U.			
7405	Cooperative Learning: Research and Practice	G	3	
	Examines research, theory, and practice related to cooperative and collaborative learning, including teacher's role, strategies and structures, and assessment of outcomes.			
	Prereq: Not open to students with credit for EduPL 797.			
7406	Social Basis of Behavior in Education	G	3	
	Focuses on the role of behavior in schools as social contexts, social perception, social influence, and social relations from a psychological perspective. The emphasis in this course is on understanding and mastery of conceptual, theoretical, and practical issues in social behavior in educational settings.			
7434	Graduate Teaching Fellows Seminar	G	3	
	Study aspects of teaching and teaching support at the university level, and examine models for departmental graduate teaching associate (GTA) preparation and support programs, concentrating on application of these ideas, skills, etc.			
	Prereq: Permission of instructor. This course is graded S/U.			
7999	Thesis Research: Educational Psychology	G	1 - 18	
	Research for master's thesis purposes only.			
	Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.			
8189	Planned Field Experience: Educational Psychology	G	1 - 15	
	Planned professional teaching experience under supervision in a public school or other educational agency.			
	Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.			
8193	Advanced Individual Studies: Educational Psychology	G	1 - 15	
	Advanced individual projects.			
	Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.			
8194	Advanced Group Studies: Educational Psychology	G	1 - 15	
	Advanced group projects.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.			
8402	Classroom Research on Student Motivation	G	3	
	In depth study of theories and research that address the development and support of students' motivation to achieve in classroom settings.			
	Prereq: Not open to students with credit for EduPL 944.			
8403	Advanced Seminar in Educational Psychology	G	3	
	Advanced seminar in educational psychology for doctoral students. Current trends in theory and research will be critically examined.			
8404	Academic Writing in Education: Reviewing the Literature	G	3	
	The class will focus primarily on systematic work on students' individual literature reviews. Topics covered will include the writing process in general, including developing personal writing habits; strategies for locating and evaluating existing research literature; structuring literature reviews for different purposes and building a logical rationale; and APA format and style.			
	This course is graded S/U.			
8405	Classroom Learning and Instruction	G	3	
	This advanced seminar is designed to guide students through contemporary issues in classroom learning and instruction. Students will critically review classroom-based research on how students learn and how to help students learn in various subject areas and with a variety of learners, including K-16 students and adult learners.			
8406	Self-regulated Learning	G	3	
	This class will critically examine major constructs and relations proposed by different models. We will analyze and discuss empirical research designed to investigate students' self-regulated learning, including its assessment. We also will evaluate how self-regulated learning can be fostered through instructional interventions.			
8407	Self-efficacy	G	3	
	This course explores the concept of collective efficacy, especially as media. The issue of self-efficacy in the social world and Bandura's theories will also be discussed.			
8408	Race, Ethnicity, & Multiculturalism in Education & Psychology	G	3	
	This seminar is designed to discuss current conceptual, theoretical, and methodological work in education and psychology and consider the role of race and ethnicity in students' school experiences, academic achievement, and development in multicultural settings.			
8895	Seminars: Educational Psychology	G	2 - 5	
	Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times.			
	Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.			
8999	Dissertation or Thesis Research: Educational Psychology	G	1 - 18	
	Research for thesis or dissertation purposes only.			
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.			
Educational Studies: Higher Educ & Student Affairs				
2239	Land-Grant Universities: Mission and Leadership	U	3	
	This course provides students with the opportunity to learn about land-grant institutions and their place in the American higher education system, including the evolving nature of the land-grant mission in 21st century America, as well as how higher education leaders are reconfiguring our nation's preeminent public institutions to meet the needs of the communities they were designed to serve.			
	Cross-listed in HDFS.			
2570	Team and Organizational Leadership	U	3	
	Overview of the theory and skills necessary for the practice of effective leadership in team and organizational settings. Leadership is explored as an integral component of a student's career and life plan.			
	Repeatable to a maximum of 12 cr hrs.			
2571S	Leadership In Community Service	U	3	
	Introduction to the knowledge, skills, and competencies for responsible service and leadership in diverse communities. Preparation for engaged, responsible, and active community involvement and leadership. Please note: Although this course is repeatable in special circumstances (study abroad requirement, for example), only one iteration will count for GE credit.			
	Repeatable to a maximum of 12 cr hrs. GE service learning course.			
2572	Introduction to Leadership Development in Learning Organizations	U	3	
	Concepts and strategies that are necessary to be an effective leader. Through a variety of leadership assessments, students will learn about their leadership styles and preferences. Repeatable to a maximum of 12 cr hrs.			
2575	Student Organization Leadership Training	U	3	
	Overview of the theory and skills necessary for the practice of effective leadership in student organization settings. Leadership is explored as an integral component of a student's activity in Ohio State student organizations.			
	Repeatable to a maximum of 12 cr hrs.			
2576	Leadership for Resident Advisors	U	1 - 3	
	Provides an overview of the theory and skills necessary for the practice of effective leadership in team and organizational settings. Leadership is explored as an integral component of a student's role as a Resident Advisor.			
	Repeatable to a maximum of 12 cr hrs or 4 completions.			
2577	Crossing Boundaries: A Journey Towards Intercultural Leadership Identity Development	U	3	
	Builds on intellectual and experiential engagement with issues of difference, diversity, social justice, and alliance building.			
	GE diversity soc div in the US course			

Educational Studies: Higher Educ & Student Affairs 155

3221	Innovation and Leadership	U	3		7545	Case Studies in Higher Education Administration	G	3
	This course is built on intellectual and experiential engagement with innovative leadership. Students are challenged to develop better problem solving skills in a team-oriented atmosphere, and through the use of creativity, learn to view challenges from new and different perspectives.				Applies theoretical and scholarly research in the field of higher education to the analysis of real-life cases from U.S. colleges and universities.			
	Cross-listed in BusMHR.				Prereq: Not open to students with credit for EduPL 858.			
3573	Theories of Leadership in Learning Organizations	U	3		7550	Women in Higher Education	G	3
	A focus on the particular opportunities and challenges that exist in understanding the theories related to leadership development in a complex and changing world.				Examines current situations of women in higher education; focuses on understanding the diversity of experiences and perspectives relevant to organizational structure, policy development, and curriculum.			
	Repeatable to a maximum of 12 cr hrs.				Prereq: Not open to students with credit for EduPL 839.			
4239	Leadership for Social Change	U	3		7554	Admission and Retention of College Students	G	3
	This course provides an opportunity for students to explore leadership theory and practice through a critical lens. By applying concepts and critiques from critical theory to well-known theories and models of leadership, this course will help students gain important skills in critical thinking and analysis and learn to deconstruct dominant ideologies and understandings of leadership.				Considers the recruitment, admission, financial aid, advising, student services and retention processes that result in successful students. Social issues and theoretical models are discussed.			
5193	Individual Studies: Higher Education and Student Affairs	U G	1 - 15		Prereq: Not open to students with credit for EduPL 910.			
	Individual study projects.				7558	Administration of Service-Learning Programs in Higher Education and Student Affairs	G	3
	Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions.				Examines the historical roots, concepts, and principles of service-learning in higher education; develops knowledge about service-learning and competencies for designing service-learning opportunities in higher education.			
	This course is graded S/U.				Prereq: Not open to students with credit for EduPL 708.			
5194	Group Studies: Higher Education and Student Affairs	U G	1 - 15		7562	The Community College	G	3
	Group study projects.				Comprehensive examination of the community college, including history, current status, students, faculty, administrators, governance and administration, finance, curriculum, controversies, and future.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.				Prereq: Not open to students with credit for EduPL 815.			
	This course is graded S/U.				7564	Finance of Higher Education	G	3
7239	Land-Grant Universities: Mission and Leadership	G	3		A study of finance of higher education with emphasis on public issues affecting higher education; criteria for identifying and developing resources for higher education institutions; and perceived productivities of departmental and academic units.			
	This course provides students with the opportunity to learn about land-grant institutions and their place in the American higher education system, including the evolving nature of the land-grant mission in 21st century America, as well as how higher education leaders are reconfiguring our nation's preeminent public institutions to meet the needs of the communities they were designed to serve.				Prereq: Admission to Higher Education Student Affairs program. Not open to students with credit for EduPL 820.			
7256	Qualitative Research in Higher Education Settings	G	3		7566	Strategy & University Leadership	G	3
	This course provides an introduction to the philosophical and epistemological foundations that guide qualitative inquiry, and an overview of the methodologies and methods associated with qualitative research designs appropriate in higher education and student affairs settings.				Explores different approaches to developing strategy for colleges and universities. Examines leadership and decision-making broadly. Current special focus on the strategic use of technology in higher education, using the simulation Virtual U.			
	Prereq: Not open to students with credit for EduPL 780.				Prereq: Not open to students with credit for EduPL 914.			
7500	Introduction to the Profession of Student Affairs	G	3		7568	Higher Education and Public Policy	G	4
	Overview of history of higher education and student affairs, the philosophical and theoretical foundations of the profession, codes of ethics, contemporary issues, and organizational structures.				Increase student understanding of the historical and contemporary roles of higher education in maintaining the public good in a democratic society, and to provide an understanding of the public policy process.			
	Prereq: Not open to students with credit for EduPL 780.				7569	Higher Education Governance and Policy Analysis	G	3
7510	College Student Development I	G	3		Addresses the basic purposes of higher education and how governance practices, policy decisions, and actions serve to facilitate those purposes.			
	An analysis of psychosocial theories of and research on college student development and their use in the design of educational practice.				7570	Internationalizing Colleges and Universities	G	3
	Prereq: Not open to students with credit for EduPL 782.				Examines the rationale and various strategies for internationalizing colleges & universities.			
7512	Interaction of Students and Environments	G	3		Prereq: Not open to students with credit for EduPL 870.			
	Analysis of components of the college environment and how students interact with it.				7574	Curriculum in Higher Education	G	3
	Prereq: Not open to students with credit for EduPL 943.				An examination of the history, rationales, content, and organization of the curriculum in colleges and universities, with emphasis on the American experience.			
7513	Understanding Educational Organizations	G	3		Prereq: Not open to students with credit for EduPL 841.			
	Introduction to organization theory and its application to the study of leadership, culture, adaptation, and change in higher education.				7576	Assessment in Higher Education	G	3
	Prereq: Not open to students with credit for EduPL 813.				An introduction to assessment practices in higher education. Students will consider the impact of assessment on student learning and success in a university environment.			
7518	Group Intervention in Higher Education	G	3		7850	Critical Race Theory in Higher Education	G	3
	Emphasis on group theory, processes, and dynamics and the development of structured learning experiences that facilitate interpersonal growth and group development in educational organizations.				Critical Race Theory in Higher Education explores the history and development of CRT over time, paying close attention to how CRT can be (and has been) applied and used to address issues of structural injustice and inequality in American society and higher education specifically.			
	Prereq: Permission of instructor. Not open to students with credit for EduPL 888.				7999	Thesis Research: Higher Education and Student Affairs	G	1 - 18
7520	Diversity in Higher Education	G	3		Research for master's thesis purposes only.			
	Examines structural and cultural diversity in higher education in relation to race, ethnicity, gender, socio-economic status, sexual orientation, and religion of college/university constituents.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions.			
	Prereq: Not open to students with credit for EduPL 887.				This course is graded S/U.			
7530	Practicum in Higher Education and Student Affairs	G	4		8191	Professional Internship	G	3 - 12
	Allows students to reflect on internship experiences by offering opportunities to share perspectives about duties and gain appreciation of how theory informs practice.				Registration for approved Higher Education & Student Affairs professional/academic internships, and approved study abroad collaborative programs.			
	Repeatable to a maximum of 12 cr hrs.				Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions.			
7540	Higher Education Institutions and Core Academic Issues	G	3		8193	Advanced Individual Studies: Higher Education and Student Affairs	G	1 - 15
	Explores different types of institutions, and central issues related to academic quality, through a systems perspective, addressing missions, curriculum, faculty, students and evaluation.				Advanced individual projects.			
	Prereq: Not open to students with credit for EduPL 806 or 842.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions.			
					This course is graded S/U.			

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8194	Advanced Group Studies: Higher Education and Student Affairs	G	1 - 15	5892	Workshops: Educational Technology	U G	1 - 8
	Advanced group projects.				Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.		
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.				Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.		
8511	College Student Development II	G	3	6223	Issues and Practices in Educational Technology	G	3
	Analysis of theories of reflective judgment and intellectual development of college students and their uses in educational practice.				Critical examinations of the issues raised by the implementation and use of information and communications technologies (ICTs) in education.		
	Prereq: Not open to students with credit for EduPL 954 and 954A.				Prereq: Not open to students with credit for EduPL 823.		
8515	Advanced Seminar in Theories of College Student Development	G	3	6273	Improving Professional Practice of Teaching with Technology	G	3
	The purpose of this course is to provide an opportunity for in-depth study, dialogue, and reflection about theoretical frameworks for understanding the development of college students. Through guided reading focusing on a variety of theoretical perspectives, class discussions, and analysis of theories students will gain increased understanding about student development. ESHESA 7510 highly recommended but not required.				Teachers learn to study the effective use of technology in teaching and learning in their classroom(s).		
8552	The Impact of College on Students	G	3	6274	Instructional Design for K12 Technology Integration	G	3
	Analysis of the philosophical assumptions and statistical evidence about the impact of college on students.				Apply instructional design practices to support the use of technology in teaching at the school and classroom levels. K12 instructional design topics include needs, formative and summative assessments, higher order learning outcomes, and technology-based differentiation.		
	Prereq: Not open to students with credit for EduPL 912.						
8560	Legal Aspects of Higher Education Administration	G	3	6278	Introduction to Instructional Design	G	3
	Statutory, regulatory, and case law are analyzed for the development and maintenance of college and university policy and administrative decision making; recent legal developments in college and university governance patterns.				Paradigms of instructional design; phases of the instructional design process including needs assessment, learner, task, and curriculum analysis, instructional strategies, evaluation, and assessment.		
	Prereq: Not open to students with credit for EduPL 840.				Prereq: Not open to students with credit for EduPL 678.		
8895	Seminars: Higher Education and Student Affairs	G	2 - 5	6282	Introduction to Teaching Online for K-12 Educators	G	3
	Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times.				Introduction for educators to the methods of teaching K-12 students online.		
	Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.				Prereq: Not open to students with credit for EduPL 682.		
8999	Dissertation or Thesis Research: Higher Education and Student Affairs	G	1 - 18	7229	Technology, Society, and Education	G	3
	Research for thesis or dissertation purposes only.				Examination of theories and history of interaction of society and technology with implications for educational technology and learning in various contexts.		
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.						

Educational Studies: Learning Technologies

2011	Keys to Academic Success for Online Learners	U	2	7277	Computer-Supported Collaborative Learning	G	3
	Introduces essential learning strategies and technologies to guide students to successful online learning experiences and ultimately academic success. This two-credit, seven-week online course is designed for students entering online degree programs or taking online courses.				Explores the ways in which technologies have impacted the research and practice of teaching and learning, especially collaborative learning, in K-12 schools and higher education.		
2211S	Impact of Technology in Learning and Education	U	3		Prereq: Not open to students with credit for EduPL 677.		
	Theories, function, impact, and use of technology in formal and informal learning and education environments.			7289	Practicum in Educational Technology	G	3
	Prereq: Not open to students with credit for EduPL 311.				Group observation, limited participation, and functional analysis of technology-enhanced learning environments.		
2250	History of Technologies in Urban Schools and Communities	U	3		Prereq: Not open to students with credit for EduPL 889.		
	Introduction to the co-evolution of urban cities and different technologies with a focus on the development of urban population centers in the US.			7297	Designing Multimedia for Instruction	G	3
2251	Technology Interventions in Urban Schools and Communities	U	3		Introduction to the instructional capabilities and hands-on development of multimedia; topics include relevant learning theories, authoring techniques and design models.		
	Develop media and computer competencies to support social justice projects in urban schools and communities.				Prereq: Not open to students with credit for EduPL 897.		
5193	Individual Studies: Educational Technology	U G	1 - 15	7392	Theories of Learning with Technology	G	3
	Individual study projects.				Overview of learning theories, and an in depth study of social and cultural influences on student, teacher, and organizational learning in technology-rich education settings.		
	Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions.				Prereq: Not open to students with credit for EduPL 892.		
	This course is graded S/U.			7897	Special Topics: Educational Technology	G	1 - 5
5194	Group Studies: Educational Technology	U G	1 - 15		Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments.		
	Group study projects.				Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.		
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.			7999	Thesis Research: Educational Technology	G	1 - 18
	This course is graded S/U.				Research for master's thesis purposes only.		
5280	Educational Videography	U G	3		Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions.		
	Functions and operations of digital video production and post-production equipment; application of theory and research to the production of video materials for instruction.				This course is graded S/U.		
	Prereq: Not open to students with credit for EduPL 680.			8189	Planned Field Experience: Educational Technology	G	1 - 15
5281	Introduction to Developing Educational Web Sites	U G	3		Planned professional teaching experience under supervision in a public school or other educational agency.		
	In this introductory course students will begin to develop the visual, technical, and pedagogical design skills to create educational web sites.				Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions.		
	Prereq: Not open to students with credit for EduPL 681.				This course is graded S/U.		
5291	Media and Technology in Education	U G	3	8193	Advanced Individual Studies: Educational Technology	G	1 - 15
	Overview of the impact and use of media and technology in education. Course directed to teacher education students.				Advanced individual projects.		
	Prereq: Not open to students with credit for EduPL 791.07, 791.20, 791.70, or 791.99.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions.		
					This course is graded S/U.		
8194	Advanced Group Studies: Educational Technology	G	1 - 15	8194	Advanced Group Studies: Educational Technology	G	1 - 15
	Advanced group projects.				Advanced group projects.		
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.				Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.		
	This course is graded S/U.				This course is graded S/U.		

8216 Scholarly Perspectives in Learning Technologies G 3

Survey of the theories and research within the field of Learning Technologies.
Prereq: Not open to students with credit for EduPL 816.

8226 Methods of Inquiry in Learning Technologies G 3

This course will introduce research methodologies specifically in technology-supported learning environments, including self-report and experience sampling method, data intensive research, big data movement, learning analytics, data collection issues, data access and privacy, content analysis of online discussions, social network analysis, as well as design based research.

8295 Applied Instructional Design G 3

Advanced theories of instructional design applied to the process of instructional development.
Prereq: Not open to students with credit for EduPL 895.

8296 Learning Technologies Diffusion, Innovation, and Change G 3

The purpose of this course is to introduce you to practices and principles of technology diffusion, innovation, and strategic change in education. Attributes of innovation, the innovation-development and innovation-decision processes, leaders as change agents and strategies on managing change are explored.

8297 Internship: Learning Technologies G 0 - 1

The purpose of this course is for students in the Learning Technologies program to have the opportunity to engage in real-work experiences in a variety of workplace settings. These experiences do not require the students' physical presence in the internship site as most of these will be supported by technology and are unpaid.

Prereq: A grade of B+ or above in 6278, or permission of instructor. This course is graded S/U.

8999 Dissertation or Thesis Research: Educational Technology G 1 - 18

Research for thesis or dissertation purposes only.
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Educational Studies: Philo & Hist of Education
2241 Body Mind Goes to School U 3

Current and emerging theoretical and cultural conception of body and mind and how they affect educational theories and practices.

Prereq: Not open to students with credit for EduPL 411. GE soc sci indivs and groups course.

3200H Mindful Resilience: Individuals to Organizations U 3

The overarching framework for the course is a critical exploration of mindfulness practices and their influence on how individuals and groups function. Exploring the physiological impact of mindfulness on the individual, students will then be able to critically examine and apply these practices to communication, implicit bias, awareness of the self and others.

3206 School and Society U 3

Use of concepts and methods of history, philosophy and the social sciences to grasp the interrelationship between society and education.

Prereq: Not open to students with credit for EduPL 306. GE diversity soc div in the US course.

3410 Philosophy of Education U 3

An introduction to key philosophical issues in education, focusing on the questions: Who should be educated? What should be taught? Who gets to decide?

Prereq: Not open to students with credit for EduPL 650.01. GE cultures and ideas course.

4245 Education and Spirituality: Holistic Perspectives U 3

Cross-disciplinary examination of spirituality from personal and cultural perspectives, including feminist, ecological, and postmodern views, with inquiry into spiritual practices impact on education.

Prereq: Not open to students with credit for EduPL 705.

4280 History of Modern Education U 3

Development of educational institutions, practices, and theories in the modern world, particularly in U.S., and the social and intellectual movements influencing them.

Prereq: Not open to students with credit for EduPL 650.02.

4403 Ethics and the Professional Context of Teaching U 3

Examination of the practice of teaching at national, state and local levels, highlighting the legal, professional, and ethical issues surrounding American schools and teaching.

Prereq: Not open to students with credit for EduPL 650.03 or 690.

5194 Group Studies: Philosophy and History of Education U G 1 - 15

Group study projects.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.
This course is graded S/U.

6250 History of Education G 3

Examines the historical role of educational institutions in the development of nations; theoretical perspectives regarding the purposes of education and teaching practices.

Prereq: Not open to students with credit for EduPL 650.02.

6410 Philosophy of Education G 3

An introduction to key philosophical issues in education, focusing on the questions: Who should be educated? What should be taught? Who gets to decide?

Prereq: Not open to students with credit for EduPL 650.01.

7222 History of Educational Policy G 3

Historical analysis of social, economic, and political factors shaping public school policy in the US since 1800.

Prereq: Not open to students with credit for EduPL 722.

7240 Life History Interview Methods in Education G 3

Explores Life History interview methods in education; provides students opportunity to conduct life history interviews.

7324 History of Educational Administration G 3

A historical study of educational administration and leadership with particular attention to developments in the United States.

Repeatable to a maximum of 6 cr hrs.

7410 Modern Trends in Philosophy of Education G 3

A study of contemporary work in philosophy of education and applications of that work to educational practice.

Prereq: Not open to students with credit for EduPL 702.

7413 Professional Education: Theories and History G 3

A study of the history, development, organization, and theories of education for the various professions, with particular attention to experience in the United States.

Prereq: Not open to students with credit for EduPL 915.

7414 Examining Knowledge, Truth, and Objectivity: Philosophy of Science for Educational Researchers G 3

Examines the ongoing controversies in educational research in light of work from the philosophy of science and social science.

Prereq: Not open to students with credit for EduPL 882.

7415 Philosophical Foundations of Educational Technology G 3

Examines the fundamental conceptual, ethical, and political questions surrounding technology use in education.

7572 History of Colleges and Universities G 3

A historical study of higher education with particular attention to the development of colleges and universities in the United States.

Prereq: Not open to students with credit for EduPL 927.

7999 Thesis Research: Philosophy and History of Education G 1 - 18

Research for master's thesis purposes.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions.
This course is graded S/U.

8193 Advanced Individual Studies: Philosophy and History of Education G 1 - 15

Advanced individual projects.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions.
This course is graded S/U.

8194 Advanced Group Studies: Philosophy and History of Education G 1 - 15

Advanced group projects.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.
This course is graded S/U.

8201 Social Foundations of Education G 3

Multiple theoretical perspectives that have shaped discussions regarding the social foundations of education from the 19th century to the present.

Prereq: Not open to students with credit for EduPL 906.

8410 Ethics and Education: Equality, Freedom, and Justice in Schools G 3

Examines the moral dimensions of educational policy and practice. Topics of consideration will include school choice, educational equality and school funding, civic education, religious and cultural accommodations, and parent and student rights.

Prereq: Not open to students with credit for EduPL 828.

8411 Educational Philosophy of John Dewey G 3

A systematic study of the writings of John Dewey and their bearings upon educational theory and practice.

Prereq: Not open to students with credit for EduPL 902.

8895 Seminars: Philosophy and History of Education G 2 - 5

Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times.

Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.

8999 Dissertation or Thesis Research: Philosophy and History of Education G 1 - 18

Research for thesis or dissertation purposes only.

Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Educational Studies: Qualitative Research in Educ

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7230	Qualitative Research for Educators	G	3	7635	Advanced Research Methods	G	3				
Introduction to qualitative research at the Master's level and to the history, methods, and substantive topics of educational ethnography.											
	Prereq: Not open to students with credit for EduPL 798.			In-depth analysis of threats to causal inferences and methods for developing research designs to address those threats. Experimental, quasi-experimental, and data collection strategies will be discussed.							
8210	Qualitative Research: The Analysis of Interaction in Educational Settings	G	3	Prereq: 6641 or EduPL 6641, or equiv.							
Qualitative research and the analysis of interaction examines the history, conceptualizations and practices of educational ethnography, field work, and naturalistic inquiry.											
Prereq: Not open to students with credit for EduPL 817.01.				Prereq: 6641 or EduPL 6641. Not open to students with credit for EduPL 827.							
8211	Analysis of Classroom Discourse	G	3	7643							
An introduction to the sequential analysis of classroom discourse structures. This course addresses the face-to-face organizations of classroom order, interaction and instruction.											
Prereq: 8210 or EduPL 8210, or permission of instructor. Not open to students with credit for EduPL 817.02 or 817.03.				Categorical Data Analysis							
8280	Qualitative Research in Education: Paradigms, Theories, and Exemplars	G	3	7648							
Examination of issues and problems of qualitative research in education research, with emphasis on the connections of theory, methods, politics, design, and practice in the conduct of qualitative research in schools and other educational settings.											
8290	Qualitative Research in Education: Methods and Analysis	G	3	7651							
Qualitative research practicum. Students learn to use qualitative methods (including interviewing, observation, participant observation, and document-based research), analysis, and writing by designing and conducting a small-scale study.											
Prereq: 8280 or EduPL 8280.				Regression Analysis							
7661											
Instrument Construction											
Design of instruments for use in educational research and assessment, including surveys, with emphasis on standards for educational and psychology testing and cultural issues in instrument design.											
Prereq: 6661 or EduPL 6661, or equiv; or permission of instructor. Repeatable to a maximum of 6 cr hrs.				7667							
Authentic Assessment											
Study of authentic assessment techniques including performance-based assessment, and portfolio assessment. Emphasis is on principles, procedures, issues, and innovations in authentic assessment.											
Prereq: One or more grad level course in assessment or measurement. Not open to students with credit for EduPL 878.				7897							
Special Topics: Quantitative Research, Evaluation, and Measurement											
Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments.											
Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.				7999							
Thesis Research: Quantitative Research, Evaluation, and Measurement											
Research for master's thesis purposes only.											
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.				8193							
Advanced Individual Studies: Quantitative Research, Evaluation, and Measurement											
Advanced individual projects.											
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.				8194							
Advanced Group Studies: Quantitative Research, Evaluation, and Measurement											
Advanced group projects.											
Prereq: Permission of instructor. Students with permission of advisers may register for more than one section or the same section two or more times. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.				8648							
Multivariate Experimental Designs											
Design and analysis issues utilizing multivariate analysis of variance and discriminant analysis.											
Prereq: 7648 or EduPL 7648, or permission of instructor. Not open to students with credit for EduPL 810.				8657							
Factor and Cluster Analyses											
Multivariate methods useful for statistical detection and summary of relationships among variables.											
Prereq: 7651 or EduPL 7651, or equivalent.				8658							
Applied Multilevel Data Analysis											
Methods for the analysis of multilevel data with an emphasis on impact of intraclass correlation, analysis strategies, estimation, model testing, and interpretation.											
Prereq: 7651 or EduPL 7651, or equiv. Not open to students with credit for EduPL 938.				8659							
Structural Equation Modeling											
Basic concepts of structural equation modeling, including approaches to regression, path analysis, confirmatory factor analysis, and structural model building, as well as some advanced models.											
Prereq: Students should have successfully completed several introductory and intermediate level graduate statistics courses. Not open to students with credit for EduPL 883.				8674							
Scaling and Item Response Theory (IRT)											
Models and methods for scaling data, with a focus on various IRT methods including the one-parameter model.											
Prereq: 6661 or EduPL 6661. Not open to students with credit for EduPL 874.											

Educational Studies: Quant Rsrch, Evaltn & Msrmnt

3005	Learner Centered Classroom Assessment	U	3	7667	Authentic Assessment	G	3				
Offers an in-depth look at classroom assessment that meets the needs of 21st century teaching and learning. During this course, prospective teachers will determine how classroom assessment strategies can benefit their teaching practices and their students learning. They will study how to plan, develop, and manage student-centered assessment.											
5193	Individual Studies: Quantitative Research, Evaluation, and Measurement	U G	1 - 15	7897	Special Topics: Quantitative Research, Evaluation, and Measurement	G	1 - 5				
Individual study projects.											
Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.				Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments.							
5194	Group Studies: Quantitative Research, Evaluation, and Measurement	U G	1 - 15	Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.							
Group study projects.											
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.				7999	Thesis Research: Quantitative Research, Evaluation, and Measurement	G	1 - 18				
5892	Workshops: Quantitative Research, Evaluation, and Measurement	U G	1 - 8	Research for master's thesis purposes only.							
Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.											
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.				Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.							
6621	Introduction to Educational Evaluation	G	3	8193	Advanced Individual Studies: Quantitative Research, Evaluation, and Measurement	G	1 - 12				
Introduction to educational evaluation, including history, models, theories, politics of evaluation, and ethical standards for evaluators and the conduct of evaluations.											
6625	Introduction to Educational Research	G	3	Advanced individual projects.							
Designed to acquaint students with the nature of the research process and strategies for conducting studies of various aspects of education and related fields.											
6641	Introduction to Educational Statistics	G	4	Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.							
An introduction to quantitative techniques, with an emphasis on educational settings.				8194							
Prereq: Not open to students with credit for EduPL 786.				Advanced Group Studies: Quantitative Research, Evaluation, and Measurement							
6661	Introduction to Educational Measurement	G	3	Advanced group projects.							
Provides a general survey of measurement and testing, including test evaluation, basics of test construction, validity and reliability.											
Prereq: Introductory grad level statistics course (e.g., Stat 6641) or equiv. Not open to students with credit for EduPL 744.				Prereq: Permission of instructor. Students with permission of advisers may register for more than one section or the same section two or more times. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.							
7627	Sampling Designs and Survey Research Methods	G	3	8648	Multivariate Experimental Designs	G	4				
Comprehensive overview of methodological issues in sampling and survey research, particularly the impact of sources of error in survey research.											
Prereq: 6641 or EduPL 6641, or equiv. Not open to students with credit for EduPL 807.				Design and analysis issues utilizing multivariate analysis of variance and discriminant analysis.							
7631	Applied Evaluation Design	G	3	Prereq: 7648 or EduPL 7648, or permission of instructor. Not open to students with credit for EduPL 810.							
Designed to acquaint students with the nature of the evaluation process and strategies for conducting educational and other evaluations, including logic models, methods, management, and cultural competence.				8657							
Prereq: 6621 or EduPL 6621.				Factor and Cluster Analyses							
Basic concepts of structural equation modeling, including approaches to regression, path analysis, confirmatory factor analysis, and structural model building, as well as some advanced models.				Multivariate methods useful for statistical detection and summary of relationships among variables.							
Prereq: Students should have successfully completed several introductory and intermediate level graduate statistics courses. Not open to students with credit for EduPL 883.				Prereq: 7651 or EduPL 7651, or equivalent.							
8674	Scaling and Item Response Theory (IRT)	G	3	8658							
Models and methods for scaling data, with a focus on various IRT methods including the one-parameter model.				Methods for the analysis of multilevel data with an emphasis on impact of intraclass correlation, analysis strategies, estimation, model testing, and interpretation.							
Prereq: 6661 or EduPL 6661. Not open to students with credit for EduPL 874.				Prereq: 7651 or EduPL 7651, or equiv. Not open to students with credit for EduPL 938.							

Educational Studies: Quant Rsrch, Evaltn & Msrmnt 159

8895	Seminars: Quantitative Research, Evaluation, and Measurement	G	2 - 5
	Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times.		
	Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.		
8999	Dissertation or Thesis Research: Quantitative Research, Evaluation, and Measurement	G	1 - 18
	Research for thesis or dissertation purposes only.		
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.		
Educational Studies: School Psychology			
6189	Field Based Experience in School Psychology	G	3
	Practical experience conducting school psychological services in public schools.		
	Repeatable to a maximum of 6 cr hrs.		
7028	Cultural Diversity	G	3
	Provide students with the opportunity to develop a multicultural awareness as they explore the impact of an increasingly diverse society in the United States.		
	Prereq: Not open to students with credit for EduPAES 728.		
7029	Urban Issues in Education	G	2
	Understanding of the dynamics of urban schools and the relationship between minority status and poverty, and educational achievement in urban schools.		
	Prereq: Not open to students with credit for EduPAES 729.		
7189	Advanced Practicum in School Psychology I	G	3
	Advanced practical experiences conducting school psychological services in multiple settings.		
	Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
7193	Advanced Individual Studies: School Psychology	G	1 - 12
	Advanced individual studies in School Psychology.		
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.		
	This course is graded S/U.		
8056	Roles and Function of School Psychologists	G	3
	Introduction to the multiple professional roles and functions of school psychologists including professional and ethical principles of professional practice.		
	Prereq: Not open to students with credit for EduPAES 856.		
8057	Cognitive Assessment	G	3
	This course trains school psychology student in the scientist-practitioner model of psychological assessment. The course covers theories of intelligence and the administration, scoring, and interpretation of cognitive ability assessments. Use of these assessments in disability determination and consultation in the schools and clinical settings will be stressed.		
	Prereq: Not open to students with credit for EduPAES 857 or 858.		
8058	Assessment of Academic Achievement	G	3
	Explores various ways to assess academic achievement for the purposes of diagnosing disability and other learning needs. Students will be exposed to a variety of academic achievement assessments and learn to administer, score, and interpret them. Types of academic achievement assessments will include norm-referenced standardized academic achievement and curriculum-based instruments.		
	Prereq: 8057.		
8060	Linking Academic Assessment to Intervention	G	3
	Using curriculum-based assessments to target specific academic skills and appropriate interventions, implementing academic interventions, and evaluating their effectiveness.		
	Prereq: Not open to students with credit for EduPAES 860.		
8077	Mental Health I: Mental Health Issues in the Schools	G	3
	Child and adolescent psychopathology, characteristics, etiology, and empirically supported interventions and programming that address these issues.		
	Prereq: Not open to students with credit for EduPAES 877.		
8078	Mental Health II: Counseling in the Schools	G	3
	Common social-emotional issues of children and adolescents and how to effectively implement empirically supported interventions to address these issues with a focus on counseling in the schools.		
	Prereq: 8077 or EduPAES 8077, or permission of instructor.		
8079	Mental Health III: Social Emotional Assessment	G	3
	Social-Emotional and behavioral assessment of children in the school setting; introduction to linking assessment to intervention; and discussion of developmental, diversity, and urban issues related to assessment with children.		
	Prereq: Not open to students with credit for EduPAES 878.		
8080	Biological Basis of Behavior: Neuropsychology in the Schools	G	2
	Discussion of brain development and functioning as it relates to typical and atypical outcomes among children and adolescents; overview of learning and psychological disorders from a school neuropsychological perspective.		
	Prereq: Not open to students with credit for EduPAES 879.		

8082	School-based Consultation: Implementing Behavioral Interventions	G	4
	Development of a conceptual understanding of school-based consultation and its use as the foundation for the implementation of behavioral interventions both individual and group.		
	Prereq: Not open to students with credit for EduPAES 882 or 883.		
8097	Psychological Services for Early Childhood Populations	G	3
	School psychologists role with early childhood populations including understanding laws, assessments, evaluations, curriculum, instruction associated with early childhood intervention services.		
8189	Advanced Practicum in School Psychology II	G	2
	Application of school psychology supervisory and leadership skills.		
	Repeatable to a maximum of 4 cr hrs. This course is graded S/U.		
8191.01	EdS Internship: School Psychology	G	3 - 6
	Application of school psychologists roles and functions as intern in a public school setting for EdS students.		
	Prereq: Majoring in School Psychology. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.		
8191.02	Doctoral Internship: School Psychology	G	3 - 6
	Application of school psychology roles and functions as intern in a public school setting for PhD students.		
	Prereq: Admission to the School Psychology major. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.		
8998	Research: School Psychology	G	1 - 12
	Conducting dissertation research.		
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.		
	This course is graded S/U.		
8999	Dissertation/Thesis Research: School Psychology	G	1 - 12
	Conducting thesis or dissertation research in school psychology.		
	Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.		
Educational Studies: Special Education			
2251	Introduction to the Special Education Profession	U	3
	An overview of special education, including individuals with sensory, orthopedic, behavioral, or learning disabilities plus individuals identified as gifted.		
2650	Introduction to Young Children with Exceptionalities	U	3
	Intro to Young Children with Exceptionalities is an overview of the education and early care of exceptional learners from birth to the early grades. This course will focus on young children whose attributes/learning abilities differ from the norm to such an extent that an individual family service plan (IFSP) or an individualized program of special education (IEP) is required to meet their needs.		
3189	Field Experience: Special Education	U	1 - 12
	Professional service in school or community settings.		
	Prereq: Admission to the Special Education program, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
4191.01	Student Teaching in Special Education: Early Childhood	U	12
	Student teaching for Special Education students in early childhood intervention.		
	Prereq: Permission of instructor. This course is graded S/U.		
4191.02	Student Teaching in Special Education: Mild/Moderate	U	12
	Student teaching for Special Education students in mild/moderate intervention.		
	Prereq: Permission of instructor. This course is graded S/U.		
4191.03	Student Teaching in Special Education: Moderate/Intensive	U	12
	Student teaching for Special Education students in moderate/intensive intervention.		
	Prereq: Permission of instructor. This course is graded S/U.		
5189	Field Experience: Special Education	U G	1 - 12
	Professional service in school or community settings.		
	Prereq: Admission in Special Education program, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
5189.01	Field Experience: Special Education: Early Childhood	U G	1 - 12
	Professional service in school or community settings.		
	Prereq: Admission in Special Education: Early Childhood program, or permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		
5189.02	Field Experience: Special Education: Mild/Moderate	U G	1 - 12
	Professional service in school or community settings.		
	Prereq: Admission in Special Education: Mild/Moderate program, or permission of the instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		

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5189.03 Field Experience: Special Education: Moderate/Intensive	U G	1 - 12	5734.01 Methods of Instruction for Elementary Children with Mild/Moderate Disabilities: Early Childhood	U G	3
Professional service in school or community settings. Prereq: Admission in Special Education: Moderate/Intensive program, or permission of instructor. Repeatable to a maximum of 12 ch hrs or 12 completions. This course is graded S/U.			This is a method course with a field placement that will provide students with information and strategies for working with children who have mild disabilities. Prereq: 5742, or 5742.01, or EduPAES 5742 (742); and enrollment in Special Education: Early Childhood major; or permission of instructor.		
5191 Orientation and Mobility Internship	U G	4	5734.02 Methods of Instruction for Elementary Children with Mild/Moderate Disabilities: Mild/Moderate	U G	3
This internship requires direct O&M assessment, planning and instruction of a variety of students within at least one setting (e.g., private agency, state school for the blind, and/or a VA Blind Rehabilitation Center) under the supervision of a COMS. Students must complete all other program requirements prior to entering internship. Students must also complete at least 100 documented hours of field experience (supervised observation, co-teaching, and direct instruction) prior to beginning the O&M Internship. Prereq: Admission to the Orientation and Mobility program.			This is a method course with a field placement that will provide students with information and strategies for working with children who have mild disabilities. Prereq: 5742, or 5734.01, or EduPAES 5742 (742); and enrollment in Special Education: Mild/Moderate major; or permission of instructor.		
5193 Individual Studies: Special Education	U G	1 - 12	5735 Methods of Instruction for Secondary Students with Mild/Moderate Disabilities	U G	3
Independent study in Special Education. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			Provides advanced training in specialized techniques and advanced teaching strategies for middle and high school students with mild/moderate disabilities. Prereq: 5743 or EduPAES 5743, and Special Education major; or permission of instructor. Not open to students with credit for EduPAES 735.		
5505 Multi-Tiered Systems of Support	U G	3	5735.02 Methods of Instruction for Secondary Students with Mild/Moderate Disabilities: Mild/Moderate	U G	3
Introduces students to the concept of multi-tiered systems of support. Emphasis on 1) strategies for assessing and teaching social skills to diverse learners in inclusive classrooms; 2) designing and implementing multi-tiered instructions within Response-to-Intervention Model; 3) collaborative differentiated instruction for whole class, small group, one-on-one teaching. Prereq: 5650 or EduTL 5501. Cross-listed in EduTL.			Provides advanced training in specialized techniques and advanced teaching strategies for middle and high school students with mild/moderate disabilities. Prereq: 5743, or 5743.02, or EduPAES 5743; and enrollment in Special Education: Mild to Moderate major; or permission of instructor.		
5510 Basics of Orientation and Mobility	U G	2	5736 Methods of Instruction I for Students with Moderate/Intensive Disabilities	U G	3
Presents an overview of the major historical events, mobility systems, resources, accessibility, safety, and roles of the O&M provider. Basic O&M techniques and instructional strategies are also provided. Prereq: Admission to Master in Education program. Not open to students with credit for 685.			Introduction to designing and developing instructional programs for children with moderate to intensive disabilities, provides skills to identify instructional goals and objectives for children using meaningful assessment techniques. Prereq: 5742 or EduPAES 5742, and admission to Special Education program; or permission of instructor. Not open to students with credit for EduPAES 736.		
5557 Language and Children with Disabilities	U G	3	5736.03 Methods of Instruction I for Students with Moderate/Intensive Disabilities: Moderate/Intensive	U G	3
Introduces students to language and its development in selected children with disabilities. The focus is on the development of language with children with specific disabilities and/or special needs. Prereq: Enrollment in Master program. Not open to students with credit for 660.			Introduction to designing and developing instructional programs for children with moderate to intensive disabilities, provides skills to identify instructional goals and objectives for children using meaningful assessment techniques. Prereq: 5742, or 5742.02, or EduPAES 5742; and admission in Special Education: Moderate to Intensive program; or permission of instructor. Not open to students with credit for EduPAES 736.		
5650 Introduction to Exceptional Children	U G	3	5737 Methods of Instruction II for Students with Moderate/Intensive Disabilities with practicum	U G	3
An overview of the education of exceptional learners including a discussion of their characteristics and a review of historical approaches to their education and of contemporary educational practices.			Provides teacher candidates with the skills to implement and evaluate student performance using systematic data collection so that skill acquisition can be monitored over time. Prereq: Open only to special education majors, or by permission of instructor. Not open to students with credit for EduPAES 737.		
5722 Language and Communication Development for Children with Mild to Intensive Disabilities	U G	3	5737.03 Methods of Instruction II for Students with Moderate/Intensive Disabilities with practicum: M/I	U G	3
Examines current principles and practices in the development of alternative communication programs for individuals with mild to intensive disabilities. Prereq: Admission to special education program, or Grad standing, or permission of instructor.			Provides teacher candidates with the skills to implement and evaluate student performance using systematic data collection so that skill acquisition can be monitored over time. Prereq: Enrollment in Special Education: Moderate/Intensive majors, or permission of instructor.		
5722.01 Language and Communication Development for Children with Mild to Intensive Disabilities: Early Child	U G	3	5738 Reading Instruction for Children with Disabilities or Severe Reading Deficits	U G	3
Examines current principles and practices in the development of alternative communication programs for individuals with moderate to intensive disabilities. Prereq: Admission in Special Education: Early Childhood program, or permission of instructor.			Information on how to effectively instruct reading to children with reading disabilities. Students will be paired with an urban learner who is significantly below basic reading level for his/her grade. Prereq: 5734 and 5736, or EduPAES 5734 (734) and 5736 (736), and permission of instructor; or Grad standing, and enrollment in the Special Education Program. Repeatable to a maximum of 6 cr hrs.		
5722.02 Language and Communication Development for Children with Mild to Intensive Disabilities: Mild/Moderate	U G	3	5738.01 Reading Instruction for Children with Disabilities or Severe Reading Deficits: Early Childhood	U G	3
Examines current principles and practices in the development of alternative communication programs for individuals with mild to intensive disabilities. Prereq: Admission in Special Education: Mild/Moderate program, or permission of instructor.			Information on how to effectively instruct reading to children with reading disabilities. Students will be paired with an urban learner whom is significantly below basic reading level for his/her grade. Prereq: 5734 or 5734.01, and 5736 or 5736.01; or EduPAES 5734 (734), and 5736 (735); or Grad standing in Special Education: Early Childhood. Coreq: 5189.01. Repeatable to a maximum of 6 ch hrs.		
5722.03 Language and Communication Development for Children with Mild to Intensive Disabilities: Mod/Int	U G	3	5738.02 Reading Instruction for Children with Disabilities or Severe Reading Deficits: Mild/Moderate	U G	3
Examines current principles and practices in the development of alternative communication programs for individuals with mild to intensive disabilities. Prereq: Admission in Special Education: Moderate-Intensive program, or permission of instructor.			Information on how to effectively instruct reading to children with reading disabilities. Students will be paired with an urban learner whom is significantly below basic reading level for his/her grade. Prereq: 5734 or 5734.02, and 5736 or 5736.02; or EduPAES 5734 (734), and 5736 (735); or Grad standing in Special Education: Mild/Moderate. Coreq: 5189.02. Repeatable to a maximum of 6 cr hrs.		
5722.04 Language and Communication Development for Children with Mild to Intensive Disabilities: HI	U G	3			
Examines current principles and practices in the development of alternative communication programs for individuals with mild to intensive disabilities. Prereq: Admission to Special Education: Hearing Impairment program, or permission of instructor.					
5734 Methods of Instruction for Elementary Children with Mild/Moderate Disabilities	U G	3			
This is a method course with a field placement that will provide students with information and strategies for working with children who have mild disabilities. Prereq: 5742 or EduPAES 5742 (742). Open only to special education majors, or by permission of instructor. Not open to students with credit for EduPAES 734.					

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5738.03	Reading Instruction for Children with Disabilities or Severe Reading Deficits: Moderate/Intensive	U G	3	
	Information on how to effectively instruct reading to children with reading disabilities. Students will be paired with an urban learner who is significantly below basic reading level for his/her grade.			
	Prereq: 5734 or 5734.03, and 5736 or 5736.03; or EduPAES 5734 (734), and 5736 (735); or Grad standing in Special Education: Moderate/Intensive. Coreq: 5189.03. Repeatable to a maximum of 6 cr hrs.			
5742	Applied Behavior Analysis for Teachers	U G	3	
	Study of principles of behavior for the development and maintenance of academic and social behaviors.			
5743	Educational Assessment of Students With Mild/Moderate Disabilities	U G	3	
	Advanced training and specialized techniques in teaching methods for middle and secondary students with mild disabilities.			
	Prereq: 5742 or EduPAES 5742, and admission to the Special Education program; or grad standing, or permission of instructor. Not open to students with credit for EduPAES 743.			
5750	Classroom and Behavior Management for Students with Disabilities	U G	3	
	Developing a positive learning environment and understanding definition of social skills; importance of teaching social skills, special social skill needs of individuals with disabilities; how to assess, teach, and evaluate social skill instruction.			
	Prereq: Admission to the Special Education program, or permission of instructor. Not open to students with credit for EduPAES 721.			
5755	Inclusive Classroom Management	U G	3	
	Students will learn best practice for positive behavior support and inclusion of students with special needs.			
	Prereq: 5742.			
5760	Educational Assessment in Early Childhood Special Education	U G	3	
	Study of the assessment of infants and preschoolers and young children with special needs with particular emphasis placed on measurement for screening and instructional program planning.			
	Prereq: Admission to Special Education program, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 760.			
5760.01	Educational Assessment in Early Childhood Special Education: Early Childhood	U G	3	
	Study of the assessment of infants and preschoolers and young children with special needs with particular emphasis placed on measurement for screening and instructional program planning.			
	Prereq: Grad standing, or admission in Special Education: Early Childhood program, or permission of instructor.			
5761	Educational Intervention for Young Children with Disabilities	U G	3	
	Study of instructional programming for language, communication, sensorimotor, cognitive, and social development in early childhood environments.			
	Prereq: Admission to Special Education program, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 761.			
5761.01	Educational Intervention for Young Children with Disabilities: Early Childhood	U G	3	
	Study of instructional programming for language, communication, sensorimotor, cognitive, and social development in early childhood environments.			
	Prereq: Grad standing, or admission in Special Education: Early Childhood program, or permission of instructor.			
5769	Delivering Effective Services to Enhance the Inclusion of Students with Special Needs	U G	3	
	Designed to prepare special education teachers to work with administrators, general education teachers, parents and paraprofessionals to deliver instruction in inclusive settings.			
	Prereq: Special Education major, or permission of instructor. Not open to students with credit for EduPAES 769.			
6510	Orientation and Mobility Intermediate Seminar	G	3	
	Introduces a view of the history of the profession of orientation and mobility. It provides students with a foundation of understanding the process of planning, skill assessment, goal-setting, and designing and sequencing O&M programs.			
	Prereq: 5510 (EduTL 5510 (685)) and EduTL 5507 (826).			
6511	Orientation and Mobility Advanced Seminar	G	3	
	Presents important background information for Orientation and Mobility practitioners upon which techniques for instruction may be based. Unique characteristics of environments and principles for accessing them are presented.			
	Prereq: 6510 (EduTL 6510).			
6512	Orientation and Mobility Special Topics Seminar	G	2	
	Highlights strategies for adaptations for early childhood and geriatric populations in the area of orientation and mobility. Considerations encountered in working with both types of populations explored.			
	Prereq: 6511.			
6520	Orientation and Mobility Techniques and Methods I	G	2	
	Covers introduction of the long cane, adaptive mobility devices, indoor travel, indoor orientation skills, route travel and residential travel skills. Practical instruction under a blindfold is a major component.			
	Prereq: 5510 (EduTL 5510) and EduTL 5507.			
6521	Orientation and Mobility Techniques and Methods II	G	2	
	This hands-on course covers O&M techniques and methods for business areas, special travel environments, and public transportation. Practical skill instruction under blindfold is a major component of this course.			
	Prereq: 6520 (EduTL 6520).			
6556	Reading for Students who are Deaf or Hard of Hearing	G	3	
	Designed to introduce students to selected issues, concerning literacy and deafness: theories of literacy, research, and current practices, reading materials and assessment, and the relationship between reading and writing.			
	Prereq: Not open to students with credit for 831.			
7189	Advanced Field Placement in Orientation and Mobility	G	1	
	This course addresses observing and co-teaching a variety of blind/low vision students under the direct supervision of a Certified Orientation and Mobility Specialists (COMS) within a variety of settings. Emphasis is experience working with a diverse group of students, in a variety of settings; moving to reflection on the process and continuity of teaching (a) student(s) over time.			
	Prereq: Admission to Orientation and Mobility licensure program. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.			
7239	Effective Instruction for Students with Dysgraphia and Other Learning Differences/Disabilities	G	3	
	This course serves as part of a larger study of struggling students with learning and attention issues. In this course, enrollees will examine developmental theories related to dysgraphia. They will also read research that supports the best practices and effective instruction for struggling writers at all age and grade levels and with various learning differences and/or disabilities.			
7550	Advanced Studies in Deafness	G	3	
	Designed to introduce graduate students to advanced issues concerning the linguistic, cognitive, and psychosocial aspects of students who are deaf and hearing impaired, including educational approaches and bilingualism/second-language.			
	Prereq: Not open to students with credit for EduTL 832.			
7830	Urban Education & Precision Teaching	G	3	
	Provides information about the challenges in urban education and how Precision Teaching can be used to address these challenges.			
	Prereq: 5742 and 8861, or EduPAES 5742 (742) and 8861 (871); Grad standing or admission to the special education program, or by permission of instructor. Not open to students with credit for EduPAES 830.			
7831	High Incidence Disability (HID) Seminar	G	3	
	This is a doctoral seminar designed to address the critical issues and research in the area of high incidence disabilities (e.g., learning disabilities, behavior disorders, dyslexia, mild cognitive disabilities, attention deficit disorder, etc.).			
	Prereq: Grad standing in ESSpED or related field.			
7833	Severe Disabilities Seminar	G	3	
	This course will provide graduate students the opportunity to explore current topics and issues specific to people with severe disabilities. In this course, we will explore the evidence-base related to improving outcomes for people with severe disabilities, directions that future researchers might take, and challenges currently faced by the field.			
	Prereq: Grad standing in ESSpED or related field.			
7999	Thesis Research: Special Education	G	1 - 6	
	Research for master's thesis purposes only.			
	Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.			
8189	Field Experience in Special Education	G	1 - 15	
	Planned counseling, supervisory, assessment, or teaching experience in a public school or other human service setting under supervision.			
	Prereq: Admission to Special Education graduate program or permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.			
8191	BCBA Supervision	G	3	
	This course is designed to provide students seeking BCBA certification with the required experiences in applied behavior analysis in school and clinical settings.			
	Prereq: Admission to graduate program in Special Education (either MA or PhD level). Repeatable to a maximum of 12 cr hrs. This course is graded S/U.			
8193	Advanced Individual Studies: Special Education	G	1 - 12	
	Advanced independent study in Special Education.			
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			

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8200 Basic Behavior Analysis G 3

This course provides students with an overview of basic behavioral processes related to human and nonhuman learning. This course focuses on the basic principles of the science of behavior, the direct application of these principles, and the use of data collection procedures for analysis of behavior.

8832 Advanced Applied Behavior Analysis G 3

Advanced study of principles of behavior for the development and maintenance of academic and social behaviors.

Prereq: Special Education major, or permission of instructor. Not open to students with credit for EduPAES 832.

8861 Behavioral Research Methods in Applied Settings G 3

Designing, conducting, and critically evaluating research involving applications of the experimental analysis of behavior to problems and needs of individuals with disabilities in educational, clinical, and community settings.

Prereq: Special Education major, or permission of instructor. Not open to students with credit for EduPAES 871.

8871 Behaviorism: Schedules and Translational Research G 3

Focuses on schedules of reinforcement and specialized areas of basic research that have influenced application with persons with developmental disabilities.

Prereq: 8861 or EduPAES 8861 (861), and major in Special Education; or permission of instructor. Not open to students with credit for EduPAES 861.

8874 Behavioral Research in Education G 3

Examines methodological issues, strategies, tactics, advances, and ethical standards in behavioral research. Concepts will be applied in reviews and critiques of research in education.

Prereq: 8871 or EduPAES 8871, and major in Special Education; or permission of instructor. Not open to students with credit for EduPAES 874.

8875 Professional Writing/Publishing in Special Education G 3

Allows students to acquire skills needed to write for publication in refereed journals.

Prereq: Admission to Special Education program, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 888.

8891 Contemporary Issues in Special Education G 3 - 9

Weekly teleconference seminars discussing current issues and research in special education with prominent scholars from other universities and research centers.

Prereq: Admission to Grad program in Special Education, or permission of instructor.

Repeatable to a maximum of 9 cr hrs or 3 completions.

8916 Behaviorism: Applications and Implications of Skinner's Works G 1½

Students will be introduced to radical behaviorism as the philosophical foundation of behavior analysis and the implications of that philosophy for research and practice in special education. Graduate students preparing for leadership positions in special education should acquire a thorough understanding and appreciation of the philosophical foundations of the science of behavior.

Prereq: 5742 or EduPAES 5742 (742), and a major in Special Education; or permission of instructor. Not open to students with credit for EduPAES 917.

8917 Verbal Behavior G 1½

Overview along with the implications and applications of Skinner's Verbal Behavior. Empirical and conceptual advances in the analysis of verbal behavior will be reviewed.

Prereq: 5742 or EduPAES 5742 (742), and major in Special Education; or permission of instructor. Not open to students with credit for EduPAES 917.

8919 Behavior Approaches to College Teaching G 3

Emphasizes evidence-based strategies and tactics in the design of instruction. Pedagogical content and theory will help prepare students for teaching at the college level.

Prereq: Admission to the special education doctoral program or permission of instructor. Not open to students with credit for EduPAES 925.23.

8921 Ethics and Legal Issues in Special Education G 3

Allows students to understand and engage in decision-making regarding general and special education practices. Identify critical issues of legal cases and ethical dilemmas.

Prereq: Open only to special education majors or by permission of instructor. Not open to students who have taken EduPAES 925.23.

8922 Topics in Early Childhood Special Education G 3

Review of evidence based practices in and methodological issues in early childhood special education.

Prereq: 5742 and 8871, or EduPAES 5742 (742) and 8871 (861); Grad standing, admission to the special education program, or by permission of instructor. Not open to students who have taken EduPAES 925.23.

8998 Research: Special Education G 1 - 15

Research for thesis and dissertation purposes only.

Prereq: Grad standing in Special Education, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

8999 Dissertation/Thesis Research: Special Education G 1 - 15

Research for thesis and dissertation purposes only.

Prereq: Major in Special Education, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

Educational Studies: Teacher Educ Policy & Ldrshp

5194 Group Studies: Teacher Education U G 1 - 15

Group study projects.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

8194 Advanced Group Studies: Teacher Education G 1 - 15

Advanced group projects.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

8421 Inquiry in Teacher Education G 3

Study of research on teacher education and teacher education programs at the collegiate and university levels.

Repeatable to a maximum of 6 cr hrs.

Educational Studies: Workforce Development & Educ

4191 Internship: Workforce Development & Education U 3

Practical experience in an organizational setting for students enrolled in Corporate Training and Development.

Prereq: Jr standing or higher. Not open to students with credit for EduPAES 628.01. Repeatable to a maximum of 6 cr hrs.

4998 Research: Workforce Development & Education U 1 - 3

Independent research on technical education and training content.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5189 School Health Practicum for School Nurses U G 3

A supervised experience for school nurse licensure candidates to apply classroom based ideas in a public/private school setting.

Prereq: Must be enrolled in the school nurse licensure program. Must be working on RN or have a current nursing license to participate in the practicum. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5189.01 Career and Technical Education Field Experience I U G 2

Observation of career and technical education classrooms in a field-based setting.

Prereq: Enrollment in EHE major, or Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

5189.02 Career and Technical Education Field Experience II U G 2

Supervised clinical teaching in a career and technical education classroom, field-based setting.

Prereq: Enrollment in EHE major, or Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

5189.03 Career and Technical Education Clinical Field Experience I U G 2

Supervised clinical teaching in a career and technical education setting.

Prereq: Grad or EHE standing, or permission of instructor. Not open to students with credit for EduPAES 575.02 or 668.02.

5189.04 Career and Technical Education Clinical Field Experience II U G 2

Supervised clinical teaching in a career and technical education setting.

Prereq: Grad standing, EHE enrollment, or permission of instructor. Not open to students with credit for EduPAES 575.03 or 668.03.

5193 Individual Studies: Workforce Development & Education U G 1 - 12

Independent research on content and issues related to Workforce Development and Education.

Prereq: Enrollment in the WDE program or working on a topic relevant to WDE and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

5194 Group Studies: Workforce Development & Education U G 1 - 3

Group Study on topics related to workforce development and education.

Prereq: Jr standing or above, or CED enrollment; and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

5622 Introduction to Software Applications for Teachers and Trainers U G 3

Foundational understanding and skill development of computer software applications.

Prereq: Not open to students with credit for EduPAES 622 or 623.

5623 Advanced Software Applications for Teachers and Trainers U G 3

Advanced understanding and skill development of computer software applications.

Prereq: Not open to students with credit for EduPAES 623 or 632.

5624 Foundations of Workforce Development and Education U G 3

Offers economic, social, psychological and educational foundations of the fields in workforce development.

Prereq: Not open to students with credit for EduPAES 624.

Educational Studies: Workforce Development & Educ 163

5633	Instructional Strategies for Career Based Intervention Programs	U G	3	5784	Student Teaching in Career and Technical Education	U G	12
	Preparation and delivery of lessons, placement and follow-up of students in Career-Based Intervention programs.				Supervised clinical practice for career and technical education majors in a school setting. Prereq: Major in EHE, or Grad standing, and passage of Business content test; or permission of instructor. Not open to students with credit for EduPAES 784.		
	Prereq: Enrollment in EHE or Grad standing; or permission of instructor. Not open to students with credit for EduPAES 633.						
5635	School Health Services	U G	3	6701	Boot Camp for the Beginning Online Instructor	G	1
	The organization and administration of the school health function including health safety, appraisal, counseling, and advocacy.				This course workshop provides the just in time skills needed to begin teaching online and prepares future faculty for first time online teaching assignments. Learners will be able to develop a management plan for teaching online, develop spaces and places for learning, connect with students and design assessments appropriate for online learning environments. This is a self-paced and managed course.		
	Prereq: Not open to students with credit for EduPAES 635.				Prereq: Not open to students with credit for 5701. This course is graded S/U.		
5636	School Health Teaching Practices	U G	3	7289	Practicum in Teaching Adults Online	G	3
	Principles and practices for preparing, implementing, and evaluating health instruction.				Course management system and content area. Learners will design and teach a lesson online. Provides an opportunity for students to practice the skills developed in the grad minor. Specialization in teaching in a virtual environment.		
	Prereq: Not open to students with credit for EduPAES 636 or 636D.				Prereq: 7701 or EduPAES 7701, and ESWDE 5701 or EduPAES 5701; or ESETec 6282 or EduPL 6282.		
5645	School Health Counseling	U G	3	7701	Teaching and Learning at a Distance: Foundations of the Virtual Classroom	G	3
	Develops skills in brief incident counseling and to assist students, staff and parents with personal health issues.				An examination of the socio-cultural, political, economic, and educational trends and issues influencing the development and delivery of distance education. Issues of accessibility, access, affordability, technology, will be discussed.		
	Prereq: Not open to students with credit for EduPAES 605.						
5649S	Teaching Adults in the Workplace	U G	3	7727	Assuring Quality in Online Course Design: Moving from Face to Face to Online	G	3
	Developmental and instructional approaches.				In this fully online course learners will use the quality matters rubric and supporting documents to inform the design and implementation of instruction specifically for an online teaching/learning environment. The learner will develop and submit for peer review an online course or portion of an online course. Learners will also serve as a peer reviewer using the quality matters standards.		
	Prereq: Jr standing or above. Not open to students with credit for EduPAES 649.				Cross-listed in Nursing.		
5655	Coordination of Work-Based Learning for Career and Technical Education	U G	3	7757	Aspects of Human Resource Development	G	3
	Strategies for the development of work-based learning programs in career and technical education programs.				Overview of theories, principles and practices of the human resource development field.		
	Prereq: Standing in EHE, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 646.				Prereq: Not open to students with credit for EduPAES 757.		
5656	Foundations of Career and Technical Education Teaching	U G	2	7935.40	Program Planning in Adult Education	G	3
	A foundational course in career and technical education for previously licensed teachers in other subject areas. Covers lab management, career-technical student organizations, advisory committees, funding, and other specialized topics related to career and technical education.				Examines the political, social and educational and cultural components in planning educational programs for adults.		
	Prereq: Grad status, or enrollment in EHE major. Not open to students with credit for EduPAES 655.				Prereq: Not open to students with credit for EduPAES 934 or 935.		
5662	Job and Task Analysis	U G	3	8193	Advanced Individual Studies: Workforce Development & Education	G	1 - 12
	The analysis of jobs and tasks for developing training programs and performance support systems.				Advanced independent research on topics related to workforce development and education.		
	Prereq: Jr standing or above. Not open to students with credit for EduPAES 662 or 663.				Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
5665	Teaching Methods for Career and Technical Education	U G	3	8911	Theoretical and Scholarly Perspectives on Workforce Development and Education	G	3
	Instructional concepts for teaching career and technical education, including teaching methods and classroom/lab management.				Provides a framework for examining the theories and concepts in Workforce Development and Education.		
	Prereq: Grad standing or enrollment in EHE, or permission of instructor. Not open to students with credit for EduPAES 665.				Prereq: Not open to students with credit for EduPAES 911 or 912.		
5667	Curriculum/Instruction and Assessment in Career and Technical Education	U G	3	8932	Adult Learning Theory	G	3
	Study of curriculum/instruction and assessment procedures in career and technical education courses and programs.				Examination of significant learning theories and their application to adult learning experiences.		
	Prereq: Grad standing, or enrollment in EHE, or permission of instructor. Concur: 5189.02. Not open to students with credit for EduPAES 667 or 675.				Prereq: Not open to students with credit for EduPAES 932.		
5668	Career and Technical Education Capstone	U G	1	8999	Dissertation/Thesis Research: Workforce Development & Education	G	1 - 3
	Development of professional teaching portfolio.				An individual study course for those graduate students conducting independent research for a thesis or dissertation.		
	Prereq: Standing in EHE, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 575.06 or 668.06.				Prereq: Doctoral standing, and permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions with 999.40. This course is graded S/U.		
5672	Lifelong Learning in the Adult Years	U G	3				
	Nature, extent and significance of adult in society. History, forms, methodologies, theoretical issues and philosophies.						
	Prereq: Jr standing or above. Not open to students with credit for EduPAES 672.						
5677	New Career and Technical Education Teacher Clinic	U G	4				
	Development of basic cognitive and performance skills for new career and technical education teachers.						
	Prereq: Standing in EHE, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 668.01. This course is graded S/U.						
5680	Introduction to Career Based Intervention	U G	2				
	The initial course for adding the Career Based Intervention Endorsement to an existing teaching license.						
	Prereq: Grad standing, or enrollment in EHE major, or permission of instructor. Not open to students with credit for EduPAES 678.						
5701	Fundamentals of Teaching Adults Online	U G	3				
	Apply the concepts of teaching presence, social presence, and cognitive presence to the design and implementation of an online course.						
	Prereq: Jr standing or above. Not open to students with credit for EduPAES 701 or 701D.						

Electrical and Computer Engineering

2020	Introduction to Analog Systems and Circuits	U	3
	Circuit theory and applications of passive components and Op amps. Introduction to analog systems using differential equations and Laplace transforms.		

Prereq: CSE 205, 1222, 2221, Engr 1222, 1281.01H, or 1281.02H; and Engr 1182.01, 1182.02, 1182.03, 1282.01H, 1282.02H, 1282.03H, 1282.04H, or 1186, 1187 and 1188 concurrent, or 1187, 1188, and 1186 concurrent; and Math 1152, 1161.01, 1161.02, 1172, or 1181H; and Physics 1250, or 1260; and CPHR 2.00 or above. Not open to students with credit for 2100, 2100.02, 2100.06, 2100.07, 2100.08, 2105, 2106, 2110, 2127, 2137, or 2300.

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2021	Introduction to Analog Systems and Circuits for Transfer Students Lecture	U	2½		3010	Introduction to Radio Frequency and Optical Engineering	U	3
	Lecture-only component of ECE 2020, for transfer students. Circuit theory and applications of passive components and Op amps. Introduction to analog systems using differential equations and Laplace transforms.					Waves and pulses on transmission lines; charges, fields, and potentials; inductance and capacitance; Faraday's law; Maxwell's Equations; plane wave propagation, polarization, reflection, and transmission.		
	Prereq: Math 1152(152) or 1161.01 or 1161.02 or 1172 or 1181H or 161, and Physics 1250 or 1260 or 131, and CSE 1222 or 2221 or 202 or 205 or 221 or EnGraph 167 or Engr 1281.01H or 1281.02H or 1222 or Engineer 192.01H or 192.02H; and Engr 1182.01 or 1182.02 or 1182.03 or 1282.01H or 1282.02H or 1282.03H or Engineer 183 or 193H, or Engr 1186(Engineer 186) and 1187(187) and 1188(185) concurrent, or 1187 and 1188 and 1186 concurrent; and CPHR 2.00 or above. Not open to students with credit for 2020, 2100, 2100.02, 2100.06, 2105, 2106, 2110, 2300, 205, 292, 294.03, or 301.				Prereq: 2020, 2021, 2100, 2100.02, 2100.06, or 2105; and Physics 1251 or 1261, or both 1240 and 1241; and Math 2415 or 2174; and enrollment in ECE or EngPhysics major; or prereq or concur: 2010 or 2061, and permission of department. Not open to students with credit for 3010.01, 3010.02, 311, or 312.			
2027	Introduction to Analog Systems and Circuits Lab for Transfer Students	U	½		3020	Introduction to Electronics	U	3
	Laboratory-only component of ECE 2020, for transfer students. Laboratory practice with circuit theory, analog systems, and applications of passive components and Op amps.					Electronics: diode and transistor models for amplifiers, switches, and logic gates. Multiple transistor circuit analysis, op amps, and electronic systems.		
	Prereq: 2021, and CPHR 2.00 or above. Not open to students with credit for 2020, 2100, 2100.02, 2100.06, 2105, 2106, 2127, 2137, 209, 292, or 294.03.					Prereq: 2100 or 2020; or 2021 or 2106, and 2027 prereq or concur; and ECE or EngPhys major, or 2110 prereq or concur and permission of department. Not open to students with credit for 323.		
2050	Introduction to Discrete Time Signals & Systems	U	3		3027	Electronics Laboratory	U	1
	Introduction to sampled time signals and linear time invariant sampled time systems.					Electronic amplification, signal processing, timing, and power regulation circuits. Experiments with electronics evaluation modules and use of an analog system lab kit for electronics testing.		
	Prereq: 2000, or 2060, or 2061 and 2067. Prereq or concur: Math 2568. Not open to students with credit for 2100, 2100.01, 2100.04, 2104, or 2110.					Prereq: 2020 or 2100; or 2027 and 2021; or 2027 and 2106; and 3020(323) prereq or concur, and ECE or EngPhysics major. Not open to students with credit for 327.		
2060	Introduction to Digital Logic	U	3		3030	Semiconductor Electronic Devices	U	3
	Introduction to the theory and practice of combinational and clocked sequential networks.					Semiconductor materials and devices. Crystals; bandstructure; charge carrier statistics; excess carriers, transport; PN junction; Schottky barrier; bipolar and field-effect transistors; optoelectronic devices; nanoscale devices.		
	Prereq: CSE 1222, 2221, Engr 1222, 1281.01H, or 1281.02H; and Math 1152, 1161.01, 1161.02, 1172, or 1181H; and Physics 1250, or 1260; and Engr 1182.01, 1182.02, 1182.03, 1282.01H, 1282.02H, 1282.03H or Engineer 183 or 193H, or Engr 1186(Engineer 186) and 1187(187) and concur: 1188(185) concurrent, or 1187 and 1188 and 1186 concurrent, or major in CIS or CIS-PRE; and CPHR 2.00 or above. Not open to students with credit for 2000, 2000.02, 2000.07, 2001, 2010, or 2017.					Prereq: 2020 or 2100 or 2120, and Physics 1251, 1261, 133, or both 1240 and 1241; and Chem 1220, 1250, or 121; and enrollment in ECE, MSE, or EngPhysics major. Prereq or concur: Math 2415 (415) or 2174. Not open to students with credit for 331 or 432.		
2061	Introduction to Digital Logic for Transfer Students Lecture	U	2½		3040	Sustainable Energy and Power Systems I	U	3
	Lecture-only component of ECE 2060, for transfer students. Introduction to the theory and practice of combinational and clocked sequential networks.					Introduction to electrical energy systems: history, current trends, renewable and non-renewable sources, rotating machines and their operation, and smart grid initiatives.		
	Prereq: Math 1152 (152) or 1161.01 or 1161.02 or 1172 or 1181H or 161, and Physics 1250 or 1260 or 131, and CSE 1222 or 2221 or 202 or 205 or 221 or EnGraph 167 or Engr 1281.01H or 1281.02H or 1222 or Engineer 192.01H or 192.02H; and Engr 1182.01 or 1182.02 or 1182.03 or 1282.01H or 1282.02H or 1282.03H or Engineer 183 or 193H, or Engr 1186(Engineer 186) and 1187(187) and concur: 1188(185) concurrent, or 1187 and 1188 and 1186 concurrent, or major in CIS or CIS-PRE; and CPHR 2.00 or above. Not open to students with credit for 2000, 2000.02, 2000.07, 2001, 2010, 261, 290, or 294.01.					Prereq: 2100, 2100.02, 2105, 2020, 2021, 205, 292, or 294 (Spring 2011), and enrollment in ECE or EngPhysics major. Not open to students with credit for 341.		
2067	Introduction to Digital Logic Lab for Transfer Students	U	½		3047	Sustainable Energy and Energy Conversion Lab	U	1
	Laboratory-only component of ECE 2060 for transfer students. Laboratory practice with and application of the theory of combinational and clocked sequential networks.					Laboratory introducing basics of energy conversion processes for electrical energy supply systems utilizing conventional rotating machines and hardware-in-the-loop simulation system for sustainable energy systems.		
	Prereq: 2061, and CPHR 2.00 or above. Not open to students with credit for 2000, 2000.02, 2000.07, 2017, 2060, 270, 290, or 294.01.					Prereq: 3040 (341), and enrollment in ECE or EngPhysics major. Not open to students with credit for 447.		
2193	Individual Studies in Electrical and Computer Engineering	U	0 - 10		3050	Signals and Systems	U	3
	Individual studies project.					Linear systems and models in continuous and discrete time; convolution; Fourier series and transform; frequency response; Laplace transform; z-transform; applications.		
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 10 completions. This course is graded S/U.					Prereq: 2020, 2050, and 2060; or 2100; and Math 2568 (568) or 571; and prereq or concur Math 2415; and enrollment in ECE or EngPhysics major. Not open to students with credit for 352.		
2300	Electrical Circuits and Electronic Devices	U	3		3080	Ethics and Professionalism	U	1
	Introduction to circuit analysis; circuit analysis concepts and mechanical systems analogies; theory and applications of electronic devices; operational amplifiers; electrical instruments and measurements.					Professional responsibilities; IEEE code of ethics; social justice; engineering as social experimentation; safety and risk; professional issues in organizations; case studies; global awareness.		
	Prereq: Physics 1251 (132) or 1261, and Math 1172 (254) or 1544 (154) or 2153 or 2162.01 or 2162.02 or 2182H or 4182H (264H), and CPHR 2.00 or above, and enrollment in College of Engineering. Not open to students with credit for 300, 309, or 320. Not open to students majoring in ECE.					Prereq: Jr or Sr standing, and enrollment in ECE major. Not open to students with credit for 481. This course is graded S/U.		
2560	Introduction to Microcontroller-Based Systems	U	2		3090	Technical Writing and Presentations	U	1
	Hardware and software organization of a typical microcontroller; machine language programming, interfacing peripheral devices, and input-output programming; real-time computer applications.					Technical writing and communications skills.		
	Prereq: 2000, 2060, 2061, 270, 290, 294.01, or 261, or 2001 and prereq or concur: 2000.07 or 2017; and EnGraph 167, CSE 1221 (205), 1222 (202), Engr 1281.01H, 1281.02H, 1222, Engineer 192.01H, or 192.02H, and enrollment in ECE, CSE, or EngPhysics major; or prereq or concur: 2010 or 2067, and permission of department. Not open to students with credit for 265 or CSE 2421 (360).					Prereq: Credit for a second writing course, and enrollment in ECE major.		
2998.01	Undergraduate Research	U	½ - 3		3551	Introduction to Feedback Control Systems	U	3
	Supervised undergraduate research in various topics.					Provides fundamental concepts in feedback control systems design and analysis.		
	Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.					Prereq: 3050 (352). Not open to students with credit for 551.		
2998.02	Undergraduate Research	U	½ - 3		3557	Control Systems Laboratory	U	1
	Supervised undergraduate research in various topics.					Utilization of real-world plants for computer control; use of a commercially available software package (Matlab) for computer-aided analysis and design.		
	Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.					Prereq or concur: 3551 (551), and enrollment in ECE or EngPhysics major. Not open to students with credit for 557.		
3561	Advanced Digital Design	U	3		3567	Microcontroller Lab	U	1
	Design and analysis of sequential circuits; digital circuit design using building blocks, programmable logic devices; design of basic computer components such as arithmetic logic units.					Laboratory in which a microcontroller is used to interface real-world hardware to make a functioning system.		
	Prereq: 2000, 2060, 2061, 2010, 2000.02, 290, 294 (Autumn 2010) or 206 and 261. Prereq or concur: 3020 (323), and enrollment in ECE, EngPhys, or CSE majors; or prereq or concur 2010 and permission of department. Not open to students with credit for 561.					Prereq: 2560 or CSE 2421, and enrollment in ECE, CSE, or EngPhysics major. Not open to students with credit for 3567.01.		

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3900 Capstone Design I	U 1	
Fundamentals of the engineering design process. Design principles and methodology. Project management during design.		
Prereq: Sr standing and enrollment in the ECE major. Prereq or concur: 3090. Not open to students with credit for 4900, 4900H, 4901, 582, Engr 4901, 4903, 5901.01, or 5901.02H.		
4021 Analog Integrated Circuits I	U 3	
Fundamentals of analog integrated circuits. CMOS transistors and diodes large-signal and small-signal operation and modeling. On-chip passive components operation and modeling. Simple and advanced current mirrors, single-ended and differential CMOS amplifiers, CMOS OTAs and Op-Amps. Integrated Circuits Fabrication, Packaging, and Testing.		
Prereq: 3020. Not open to students with credit for 5021.		
4193 Individual Studies in Electrical and Computer Engineering	U 0 - 12	
Individual studies project.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
4900 Capstone Design II	U 3	
Application of design principles and methodology to conceptual and detailed technical design, implementation, and testing of a capstone project.		
Prereq: Option 1: 2560 (265), 3010 (312), 3020 (323), 3030 (432), 3040 (341), 3050 (352), 3090 (582), and 3900 and Sr standing, and enrollment in Electrical Engineering Program of Study (EES subplan) of the ECE major. Prereq or concur: 3080 (481). Option 2: 3020 (323), 3090 (582), 3561 (561), 3567 (567), 3900, CSE 2231 (321), and 2451, and Sr standing, and enrollment in Computer Engineering Program of Study (CES subplan). Prereq or concur: 3080 (481) and 5362 (662). Not open to students with credit for 4900H (683H), 4901 (683), or 682, or Engr 4903 or 5902.01.		
4900H Design II with Honors Thesis Project	U 3	
Application of design principles and methodology to conceptual and detailed technical design, implementation and testing, culminating in a capstone design project.		
Prereq: Honors standing, and permission of department, and: Option 1: 2560 (265), 3010 (312), 3020 (323), 3030 (432), 3040 (341), 3050 (352), 3090 (582), and 3900, and Sr standing, and enrollment in ECE (EES subplan). Prereq or concur: 3080 (481). Option 2: 3020 (323), 3090 (582), 3561 (561), 3567 (567), 3900, CSE 2231 (321), and 2451, and Sr standing, and enrollment in CSE (CES subplan). Prereq or concur: 3080 (481) and 5362 (662). Not open to students with credit for 4900 (682), 4901 (683), or Engr 4903 or 5902.01.		
4901 Capstone Design II Special	U 3	
Application of design principles and methodology to conceptual and detailed technical design, implementation, and testing of a capstone design project. Teams of at least three arrange special projects with a faculty member.		
Prereq: Permission of department and: Option 1: 2560, 3010 (312), 3020, 3030 (432), 3040 (341), 3050 (352), 3090 (582), and 3900, and Sr standing, and enrollment in Electrical Engineering Program of Study (EES subplan) of the ECE major. Prereq or concur: 3080 (481). Option 2: 3020 (323), 3090 (582), 3561 (561), 3567 (567), 3900, CSE 2231 (321), and 2451, and Sr standing, and enrollment in Computer Engineering Program of Study (CES subplan). Prereq or concur: 3080 (481) and 5362 (662). Not open to students with credit for 4900H (683H), 4901 (682), or Engr 4903 or 5902.01.		
4998.01 Undergraduate Research	U ½ - 3	
Supervised undergraduate research in various topics.		
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.		
4998.01H Undergraduate Honors Research	U ½ - 3	
Supervised research in various topics for undergraduate honors students.		
Prereq: Honors standing; or GPA 3.4 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.		
4998.02 Undergraduate Research	U ½ - 3	
Supervised undergraduate research in various topics.		
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		
4999.01 Undergraduate Thesis Research	U ½ - 3	
Undergraduate Thesis (Distinction) research on topics in Electrical & Computer Engineering.		
Prereq: GPA 3.0 or above, and enrollment in ECE major, and approved Thesis (Distinction) project. Repeatable to a maximum of 6 cr hrs or 6 completions.		
4999.01H Undergraduate Honors Thesis Research	U ½ - 3	
Undergraduate Honors Thesis (Distinction) research on topics in Electrical & Computer Engineering.		
Prereq: Honors standing, or GPA 3.4 or above; and enrollment in ECE major, and approved Honors Thesis (Distinction) project. Repeatable to a maximum of 6 cr hrs or 6 completions.		
5000 Introduction to Analog and Digital Communications	U G 3	
Communications channel modeling, analog communication schemes, digital communication schemes, error rate analysis, and error control coding.		
Prereq: 3050 (352), and Stat 3470 (427) or Physics 3700 (416); or Grad standing. Not open to students with credit for 501 or 702.		
5007 Communications Laboratory	U G ½	
A laboratory in digital data communication implementing a software-defined modem: quadrature modulation; phase-shift keyed modulation; inter-symbol interference; timing and frequency recovery.		
Prereq or concur: 5000 (501), and enrollment in ECE or EngPhysics major; or Grad standing in ECE. Not open to students with credit for 4007 or 508.		
5010 Wireless Propagation and Remote Sensing	U G 3	
Practical methods for predicting tropospheric, groundwave, and ionospheric propagation, including refraction, reflection, and extinction effects. Study of remote sensing systems and their applications.		
Prereq: 3010 (312), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 713.		
5011 Antennas	U G 3	
Electromagnetic radiation; fundamental antenna parameters; dipole, loops, patches, broadband and other antennas; array theory; ground plane effects; horn and reflector antennas; pattern synthesis; antenna measurements.		
Prereq: 3010 (312), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 711.		
5012 Integrated Optics	U G 3	
Fundamentals of planar lightwave circuits and guided wave devices; laser light in anisotropic media; electrooptic and nonlinear optical effects; concepts in telecommunications, RF photonics, nanobiotechnology.		
Prereq: 3010 (312), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 717.		
5013 Introduction to Radar Systems	U G 3	
Introduces the fundamentals of radar such as the main concepts and techniques used in modern radar systems. The class is a survey course exposing students to a wide range of radar applications and design issues.		
Prereq: 3050 (352), and 3010 (312) or 3010.01, and Stat 3470 (427); or Grad standing in Engr. Not open to students with credit for 714 or 5194.01.		
5017 Microwave Engineering	U G 4	
Transmission line theory; multiconductor; S-parameters; transformers, couplers, filters, resonators, circulators; electromagnetic interference and compatibility; computer-aided design; microstrip realization and testing with a network analyzer.		
Prereq: 3010 (312), and enrollment in ECE major; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 710.		
5020 Mixed Signal VLSI	U G 3	
Design and circuit analysis of basic VLSI structures such as registers, cell libraries, digital and analog I/O. Physical layout, timing analysis, PLLs, design tools.		
Prereq: 3020 (323), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 721.		
5021 Analog Integrated Circuits II	U G 3	
Advanced analog integrated circuits. Linear feedback networks design and stability analysis, multi-stage CMOS op-amp design and compensation, fully-differential op-amps and common-mode feedback networks, comparators, transconductors, bandgaps, sample and hold circuits, switched-capacitor circuits, noise analysis of CMOS circuits.		
Prereq: 4021; or Grad standing in Engineering, and permission of instructor. Not open to students with credit for 720 or 722.		
5022 Radio Frequency Integrated Circuits	U G 3	
Modulation, wireless standards, transceiver architecture, transistor models, passive component models, LNA, VCO, PLL, Mixers, integrated PA, RFIC layout.		
Prereq or concur: 5021 (722), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 620.		
5025 Power Electronics: Devices, Circuits, and Applications	U G 3	
Provides an introduction to power electronic conversion principles. Analytical techniques will be developed through the study of widely used converter circuits.		
Prereq: 3020 (323), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 624, 724, or 844.		
5027 Microwave Electronics	U G 4	
Design principles of microwave transistor amplifiers and oscillators; low-noise, power and broadband amplifiers; linearization; computer-aided design; microstrip realizations and testing in the laboratory.		
Prereq: 3020 (323), and enrollment in ECE major; or Grad standing in Engineering, Biological Science, or Math and Physical Sciences. Not open to students with credit for 723.		
5031 Semiconductor Process Technology	U G 3	
Discrete and integrated circuit device design, silicon VLSI processing technologies, III-V compound semiconductor device fabrication technologies; epitaxy, doping, bandgap engineering; and device measurements and failure mechanisms.		
Prereq: 3030 (432), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 734 or 735.		

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5033	Surfaces and Interfaces of Electronic Materials	U G	3	5200	Introduction to Digital Signal Processing	U G	3				
Provides the fundamental and practical basis for designing, processing, and characterizing the interfaces controlling the next generations of microelectronic and optoelectronic device structures.											
	Prereq: 3030 (331), and Physics 1250 (132) or 1250H; or Grad standing in Engineering, Biological Science, or Math and Physical Sciences. Not open to students with credit for 736.				Sampling and reconstruction; discrete-time rate conversion; processing of discrete-time signals; design of discrete-time filters, selected topics in adaptive and/or multidimensional signal processing.						
5037	Solid State Microelectronics Laboratory	U G	4	Prereq: 3050 (352), and Stat 3470 (427) or Math 530; or Grad standing. Not open to students with credit for 600 or 801.01.							
	Introduction to laboratory techniques for semiconductor device fabrication including oxidation, chemical processes, photolithography, diffusion, and metallization; fabrication and measurements of planar diodes and transistors.			5206	Medical Imaging and Processing	U G	3				
	Prereq or concur: 3030 (432), and acceptance in ECE, MSE or EngPhysics major; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 637.			Introduction to medical imaging techniques (CT, MRI, PET, ultrasound), including data collection, image reconstruction, physics of tissue interactions, and digital processing of medical images.							
5041	Electric Machines	U G	3	Prereq: 3020 (323) and 3040 (341), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 743.		Prereq: 3050 (352). Prereq or concur: 3090 or 582, or Grad standing in ECE, BiomedE, or Biophys. Not open to students with credit for 706.					
5042	Power Systems	U G	3		5207	Real-Time Digital Signal Processing Laboratory	U G	½			
	A power system analysis course presenting power systems loads, modeling of transformers and power system model for voltage calculation and faults.			Real-time signal processing of acoustic signals and video images; finite impulse response filters; adaptive filtering; array processing; fast Fourier transform.							
	Prereq: 3040 (341), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 640, 740, or 741.			Prereq or concur: 5200, and enrollment in ECE major or Grad standing in ECE. Not open to students with credit for 4207 or 609.							
5043	Power Systems - Analysis and Operation	U G	3		5227	Fundamentals of Power Management Integrated Circuits for VLSI Systems	U G	4			
	Power systems analysis and operations, including steady-state analysis, state estimation, and economic operation.			Theory, design and applications of integrated power management integrated circuits in VLSI systems. This includes: system and circuit architectures, performance metrics, practical implementations, design considerations in VLSI systems in advanced CMOS processes, and design techniques for integrated power regulators and battery chargers. Background in basic analog design is strongly recommended.							
	Prereq: 3040, and ECE major; or Sr standing and ISE major; and Math 2568; or Grad standing in engineering or biological sciences or math and physical sciences. Cross-listed in ISE.			Prereq: 4021 or 5021, or permission of instructor.							
5047	High Voltage Engineering and Laboratory	U G	3		5237	Photovoltaics Laboratory	U G	4			
	Dielectric strength and breakdown of gases, liquids, and solids, electric field design problems in power system equipment; laboratory study of high voltage insulation.			Introduction to laboratory techniques for processing and fabrication of inorganic and organic solar cells, and photovoltaic testing and measurement techniques to characterize solar cells.							
	Prereq: 3040 (341), and enrollment in ECE major; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 747.			Prereq: 3030 or MatScEn 3271, and enrollment in ECE or MatScEn major; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences.							
5070	Neuroengineering and Neuroprosthetics	U G	3		5362	Computer Architecture and Design	U G	3			
	An overview of the broad field of Neuroengineering for graduate and senior undergraduate students with engineering or neuroscience backgrounds. Focusing on neural interfaces and prostheses, this course covers from basic neurophysiology and computational neuronal models to advanced neural interfaces and prostheses currently being actively developed in the field.			Design of general purpose digital computers including arithmetic and control units, input/output, and memory subsystems.							
	Prereq: 3050 or BiomedE 3703; or Neurosc 3010 and permission of instructor; or Grad standing in Engineering or Neurosc. Not open to students with credit for 5194.03 or Neurosc 5070. Cross-listed in Neurosc.			Prereq: 2560 (265) and 3561 (561), and undergraduate enrollment in ECE, CSE, or EngPhysics major; or Grad standing in Engineering. Not open to students with credit for 662, CSE 675.01, or 675.02.							
5101	Introduction to Wireless Networking	U G	3		5400	Instrumentation, Signals, and Control in Transportation Applications	U G	3			
	Fundamental concepts in cellular design, Wireless-LANs, MANETs, and sensor networks will be explored. Specific topics will include propagation, fading, cellular-design, power-management, routing, scheduling, and control.			Interdisciplinary course bringing together electrical engineering tools and transportation applications. Students gain valuable experience working in teams while learning traffic flow, surveillance, and control.							
	Prereq or concur: 3561 (561) or CSE 3461 (677), or Grad standing in Engineering or Math and Physical Sciences. Not open to students with credit for CSE 5463. Cross-listed in CSE 5463.			Prereq: 2100 or 292 or 294 (Spring 2011) or 301, and Math 2415 (415); or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 675, CivilEn 6750 (675), or 4750. Cross-listed in CivilEn 5750.							
5120	Introduction to Integrated Circuits Test and Measurement	U G	3		5460	Image Processing	U G	3			
	Parametric testing techniques for analog, digital, mixed and RF ICs, DSP-based testing; noise effects on accuracy; Design-for-Test and Built-in-Self Tests.			Fundamentals and research directions in image processing: cameras, geometry, calibration, 2D and 3D image reconstruction, stereo, structure from motion, Radiometry, filtering, motion estimation, and applications.							
	Prereq: 3020, or 323 and 351, or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 625, 694 (Spring 2009), or 694.04.			Prereq: 5200 (600), and Stat 3470 (427) or Math 530; or Grad standing in Engineering, Biological Sciences, Statistics, Bioinformatics, or Math and Physical Sciences. Not open to students with credit for 707.							
5127	Power Electronics Lab	U G	1		5462	HDL Design and Verification	U G	3			
	Laboratory introducing basic circuits of power electronics, and simulation and control hardware and software for various power and energy applications.			The detailed design and verification of major components of a computer architecture using a standard hardware description language (HDL).							
	Prereq: 3040 (341) and enrollment in ECE major, or Grad standing in Engineering. Not open to students with credit for 628 or 647.			Prereq: 5362, or 561 and 662, or CSE 675.01 or equiv, or Grad standing in Engineering. Not open to students with credit for 762 or 764.							
5131	Lasers	U G	3		5463	Introduction to Real Time Robotics Systems	U G	3			
	Atomic interaction with radiation, cavities with gain, Gaussian beams, light-emitting diodes, and semiconductor lasers.			Components of a robot system, types, electronic system components, and analog-digital conversion; robot kinematics and dynamics; error analysis; autonomous mobile robots; hardware and software.							
	Prereq: 3010 (312) and 3030 (432), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 732.			Prereq: 2560 (265), 3020 (323), and 3050 or 352; or Grad standing in Engineering. Not open to students with credit for 763.							
5132	Photonics	U G	3		5465	Advanced Microcomputers	U G	3			
	Fiber optics, optical systems and devices, optical detection, photonic band gaps, holography, and optical data storage.			An investigation of current microcomputer structures with emphasis on hardware implementation of I/O, direct memory access, interrupts, memory, and microprogramming.							
	Prereq: 3010 (312), 3010.01, or 3010.02, and 3030 (432) or 3030.01; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 5132.01 or 731.			Prereq: 5362, or 662 and 694A, or Grad standing in Engineering. Not open to students with credit for 765.							
5137	Photonics Lab	U G	1		5510	Introduction to Computational Electromagnetics	U G	3			
	Students perform experiments from among: solar cells, laser diode physics, liquid crystals, acousto-optics, optical sensing, and fiber optics.			Numerical methods for solving maxwell equations both static and electrodynamics, introduction to finite difference, finite element and integral equation methods, and applied linear algebra.							
	Prereq: 3010 and 3030, and enrollment in ECE major; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences.			Prereq: 3010; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 715 or 813.							

5530	Fundamentals of Semiconductors for Microelectronics and Photonics	U G	3
Crystal structure, semiconductor energy band structure, electron transport and carrier recombination, heterostructures, and optical and dielectric properties.			
Prereq: 3030 (432), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 730.			
5550	Computational Humanitarianism	U G	3
Computational models of individual and group poverty and underdevelopment; computational social justice; assessing social impact of technology; sensitivity analysis for technology prioritization and design; feedback control for computer automation of helping to meet social justice objectives; social agreement, choice, and allocation.			
Prereq: Jr, Sr or Grad standing in College of Engineering; or permission of instructor. Not open to students with credit for 5194.06.			
5551	State-Space Control Systems	U G	3
Discrete-time state variable representations; pole placement via state-feedback; introduction to realization theory; observer design; introduction to Kalman filtering; linear quadratic regulator theory.			
Prereq: 3050 (352), and Stat 3470 (427) or Math 530; or Grad standing. Not open to students with credit for 650, 750, or 755.			
5553	Autonomy in Vehicles	U G	3
Autonomy in the context of modern vehicles; cruise control, anti-lock brake systems (ABS), steering control/lane keeping; introduction to automated highway systems (AHS).			
Prereq: 3551, 5551, or 551, or Grad standing in Engineering. Not open to students with credit for 753.02.			
5554	Powertrain Control Systems	U G	3
Application of digital control system theory, from viewpoints of input-output and state variable representations, to realistic problems in automotive powertrain systems.			
Prereq: 3551, 5551, or 551, or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 753.01.			
5557	Control System Implementation Laboratory	U G	2
Laboratory study of advanced feedback control techniques as applied to nonlinear and multi-output systems under computer control.			
Prereq: 3551 (551), or Grad standing in Engineering or Math and Physical Sciences. Not open to students with credit for 758.			
5759	Optimization for Static and Dynamic Systems	U G	3
Numerical optimization techniques as applied to selected electrical engineering application areas.			
Prereq: 3551, 5551, or 551, or Grad standing in Engineering or Math and Physical Sciences. Not open to students with credit for 759.			
5832	Photovoltaics and Energy Conversion	U G	3
Photovoltaic materials and devices; solar cell device physics; solar cell simulation, design and operation; silicon cell technologies; thin film technologies; III-V technologies; nanostructures; terrestrial and space applications.			
Prereq: 3030, or Grad standing in Engr or Physics. Not open to students with credit for 835.01.			
5833	Organic Conducting Devices	U G	3
Conducting organic small molecules and polymers (structural, optical and electrical properties); organic light emitting diodes; transport and carrier injection; organic transistors; organic lasers.			
Prereq: 3030 (432), or permission of instructor for non-ECE majors; or Grad standing in engineering, biological sciences, or math and physical sciences. Not open to students with credit for 7833 (835.02) or 5194.04.			
6001	Probability and Random Variables	G	3
Probability, random variables, and random vectors for analysis and research in electrical engineering. Distribution functions, characteristic functions, functions of random variables and vectors, Markov chains.			
Prereq: Grad standing. Not open to students with credit for 804 or 805.			
6010	Electromagnetic Field Theory I	G	3
Maxwell's Equations; plane waves; field representations and solutions in unbounded space; waveguides and cavities; elements of Green's Functions; cylindrical and spherical waves; electromagnetic theorems.			
Prereq: 5010 (713), and 5011 or 613; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 719, 810, or 811.			
6030	Micro-Electro-Mechanical Systems (MEMS) Design	G	3
The field of micro-electro-mechanical systems (MEMS) is an interdisciplinary area that includes design and fabrication of sensors and actuators (transducers) that are capable of micron-size mechanical movements. Lectures cover a wide range of topics in design & fabrication. Projects include FE simulation of an inertial, optical, RF, or power MEMS devices as an integral part of this course.			
Prereq: Grad standing in Engineering or Physics, or permission of instructor.			
6070	Project Management in Electrical and Computer Engineering	G	3
Students learn project management principles and apply them to Electrical and Computer Engineering real-world projects.			
Prereq: Grad standing in ECE. Not open to students with credit for 6194.02.			

6101	Computer Communication Networks	G	3
Foundational understanding of network analysis, error-control, routing, congestion-control, multi-access, and their examples in the context of the existing communication networks.			
Prereq: 6001 (804), Stat 3470 (428), 520, Math 530, or another undergraduate course in Probability. Not open to students with credit for 861, 862, CSE 6461, 861, or 862. Cross-listed in CSE 6461.			
6102	Wireless Networks	G	3
Design principles and communication algorithms for wireless networks with a focus on MAC and routing protocols, scheduling algorithms, power control, and scaling properties.			
Prereq: 6101 (861) or CSE 6101 (861). Not open to students with credit for both 867 and 894.03.			
6193	Individual Studies in Electrical and Computer Engineering	G	0 - 12
Individual studies project.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
6202	Stochastic Signal Processing	G	3
Spectrum estimation, array processing, and adaptive filtering.			
Prereq: Not open to students with credit for 800 or 801.01.			
6511	Nonlinear Optics	G	3
Nonlinear optics for the generation, propagation, amplification, and control of laser light; all-optical switching and solitons; modern applications in high speed lightwave devices and systems.			
Prereq: 5012, or Grad standing.			
6531	Fundamentals of Semiconductor Devices	G	3
An overview of the physics, design, and engineering of semiconductor electronic and optoelectronic devices. Applications of silicon, compound semiconductor, and nanotechnology will be covered.			
Prereq: 5530 (730), or permission of instructor. Not open to students with credit for 5531.			
6532	Nanofabrication and Nanoscale Devices	G	3
Fundamentals of nanostructures and devices; engineering and physics of new devices, confined structures in low dimensions and their effects on traditional devices; nanofabrication and nanomanufacturing.			
Prereq: 6531, 5531, or 730, or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 5532 (835.03).			
6541	Advanced Topics in Sustainable Energy and Power Systems	G	3
Advanced topics in sustainable energy and power systems; basic issues and solutions to sustainable energy; the concept of smart grid; cyber control and security.			
Prereq: 5025 (624) or 724. Not open to students with credit for 5541.			
6750	Linear Systems Theory	G	3
In-depth treatment of linear dynamical systems. State equations solution. Controllability and observability. Canonical forms. Internal and external stability. Linear feedback and observer design. Geometric theory.			
Prereq: Not open to students with credit for 5750 (750).			
6754	Nonlinear Systems Theory	G	3
Provides fundamental mathematical tools for the analysis of nonlinear dynamical systems. Basic techniques for the synthesis of nonlinear control systems are introduced.			
Prereq: Not open to students with credit for 5754 (754).			
6999	Research for Thesis	G	½ - 15
Research for thesis.			
Repeatable to a maximum of 15 cr hrs or 30 completions. This course is graded S/U.			
7001	Stochastic Processes, Detection, and Estimation	G	3
Stochastic processes; detection and decision theory; hypothesis testing, parameter estimation; and applications to communications and signal processing.			
Prereq: 6001 (804). Not open to students with credit for 806.			
7003	Wireless Communication Theory	G	3
Theory and analysis of wireless communication systems. Topics include: multipath fading channels; modulation, equalization, and coding for fading channels; MIMO systems; capacity calculations.			
Prereq: 6001 (804). Not open to students with credit for 807 or 809.			
7005	Information Theory	G	3
Mathematical models for channels and sources: entropy, information, data compression, channel capacity, Shannon's theorems, rate distortion theory.			
Prereq: 6001 (804). Not open to students with credit for 801.02.			
7010	Electromagnetic Field Theory II	G	3
Green's functions with applications; spectral representation of sources; sources in layered media and Sommerfeld integrals; time-domain fields, retarded potentials, and transients; periodic structures; integral equations.			
Prereq: 6010 (719). Not open to students with credit for 810 or 811.			

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7011	Computational Electromagnetics	G	3	
	Advanced topics in numerical methods for solving Maxwell equations, including finite element methods, integral equation methods, and their hybridization.			
	Prereq: 5510 (715) or 6010. Not open to students with credit for 813 or 814.			
7020	Integrated Circuit Design of Data Converters and Phase-Locked Loops	G	3	
	A comprehensive overview of the most recent system architectures of data converters and phase-locked loops. Provides a good understanding how performance specifications and process technology limitations lead to implementation decisions. The presented principles are illustrated by examples and real life case studies.			
	Prereq: 5021, or permission of instructor.			
7022	Advanced RF Integrated Circuits	G	3	
	Advanced topics on RF and mm-wave circuits. Frequency synthesizers, transmitter linearization techniques (e.g. polar circuits), MIMO and phase array circuits, power D/As.			
	Prereq: 5022 (620), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 694K or 694.02.			
7027	Advanced Topics in Analog VLSI Design	G	4	
	Advanced topics in analog VLSI design, such as integrated data converters, or power management integrated circuits, or high-performance analog circuits. This includes: system and circuit architectures, performance metrics, practical implementations, design considerations in advanced semiconductor processes, chip design projects, and lab characterization.			
	Prereq or concur: 5021 and 5227; or Grad standing in Engineering, or Math and Physical Sciences, and permission of instructor.			
7032	Physical Electronics of Advanced Semiconductor Devices	G	3	
	MOSCAPs, Gated Diode, CMOS Bulk/SOI Transistors, Photodiodes, Carrier Transport/Storage, Scaling, Mobility, CCDs, CMOS, EEPROMs, SiGe, SiC, ISFETs, BJTs, Noise and Modeling.			
	Prereq: 5530 (730) or 6531. Not open to students with credit for 894 (Sp12, Advanced Semiconductor Devices) or 8194.04.			
7080	Ethics and Professionalism	G	1	
	Professionalism standards, ethical dilemmas, codes of ethics, moral frameworks and social justice, engineering as social experimentation, safety and risk, workplace rights and responsibilities, professional communications, research integrity, environmental ethics, global issues. Case study based approach.			
	Prereq: Grad standing in ECE. This course is graded S/U.			
7100	Network Optimization and Algorithms	G	3	
	Convex optimization, probabilistic, and algorithmic methods for the design and analysis of efficient and practical algorithms for complex and stochastic communication networks.			
	Prereq: Grad standing. Not open to students with credit for 894R.			
7103	Discrete Stochastic Processes	G	3	
	Stochastic processes in discrete time or space for electrical engineering. Renewal theory, Markov chains and processes, dynamic programming, basic large deviations theory and martingales.			
	Prereq: 6001 (804). Not open to students with credit for 894Q or 894.01.			
7200	Signal Processing	G	3	
	Multi-rate signal processing, filter banks, perfect reconstruction, time-frequency analysis, and wavelets and applications.			
	Prereq: Not open to students with credit for 700.			
7531	Epitaxial Heterostructures	G	2	
	Science and techniques behind thin film growth and engineering for combining different materials, altering chemical composition at the nanometer scale, while controlling defects and strain. Epitaxial crystal growth will be explained. Students will gain an understanding of the kinetics, thermodynamics, and technology involved in epitaxial heterostructures and self-assembled nanostructures.			
	Prereq: Grad standing. Not open to students with credit for MSE 7531. Cross-listed in MSE.			
7811	Electromagnetic Interference and Compatibility	G	3	
	Electromagnetic interference and compatibility, signal integrity in ICs, conducted emissions and electromagnetic radiation susceptibility, and crosstalk and shielding.			
	Prereq: 6010 (719). Not open to students with credit for 614.			
7813	Advanced Antenna Theory and Design	G	3	
	Topics in Advanced Antenna Theory and Design.			
	Prereq: 5011 or 613, or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 815.			
7821	Mixed Signal Verification and CAD Tools	G	3	
	Principles of combining analog, RF, and digital design, simulation, and verification strategies using modern CAD tools.			
	Prereq: 5020, 622, or 720. Not open to students with credit for 894Z or 822.			
7822	Advanced Nonlinear Microwave Circuit Engineering	G	3	
	Large-signal characterization and modeling of nonlinear RF circuits; power amplifiers; oscillators; modulators; wideband linearization, power efficient design.			
	Prereq: 5027 or 723. Not open to students with credit for 694K or 694.02.			
7831	Microwave Semiconductor Devices	G	3	
	Principles of microwave semiconductor devices; scattering and high-field transport; Gunn effect; FET wave equation, HEMT; HBT; large signal RF modeling and measurements; noise; traps; self-heating.			
	Prereq: 5530 (730). Not open to students with credit for 832.			
7841	Advanced Topics in Power Electronics	G	3	
	Advanced topics of power electronics, beginning with utility and vehicle applications and evolving into advanced circuit topologies and control.			
	Prereq: 5025 (624). Not open to students with credit for 844.			
7842	Advanced Topics in Electric Machines	G	3	
	Advanced topics of electric machines, beginning with dynamic modeling and principles of vector control and evolving into new design and control of electric machines for advanced traction motors and renewable energy generator systems.			
	Prereq: 5541 (643) and 5551 (650). Not open to students with credit for 743, 744, or 845.			
7843	Advanced Topics in Power Systems	G	3	
	Advanced topics of power system protection, beginning with equipment protection and evolving into system wide protection design and operation to accommodate smart-grid technologies.			
	Prereq: 5042 or 740. Not open to students with credit for 741.			
7850	Hybrid Dynamical Systems: Theory and Applications	G	3	
	Introduction to hybrid systems (continuous dynamics coupled with discrete logic rules). Topics include stability analysis, optimal control, model predictive control, reachability, and state estimation of hybrid systems. Emphasis will be placed on applying existing hybrid systems theories to a wide range of applications in networked control systems, smart grid, power electronics, and robotics.			
	Prereq: 6750 or 5750 (750).			
7854	Nonlinear and Adaptive Control	G	3	
	Advanced analysis of uncertain nonlinear systems. Design methodologies for complex interconnected nonlinear systems. Applications of nonlinear and adaptive control design to aerospace and robotic systems.			
	Prereq: 6754 (5754 or 754) and 6750 (5750 or 750). Not open to students with credit for 857.			
7855	Large Scale and Cyber-Physical Systems	G	3	
	Decentralization, hierarchy and their effects on modeling, stability analysis, and optimal controller design. Hybrid system based modeling and design of Cyber-Physical Systems.			
	Prereq: 5750 (750). Not open to students with credit for 855.			
7858	Intelligent Control	G	3	
	Fuzzy control, neural control, genetic algorithms, learning control, and distributed intelligent control.			
	Prereq: 5551 (551) or equiv. Not open to students with credit for 858.			
7859	Sliding Mode Control in Electromechanical Systems	G	3	
	Sliding modes an efficient tool to control high order dynamic plants operating under uncertainty conditions.			
	Prereq: 5750 (750) or MechEng 5372. Not open to students with credit for 859 or MechEng 7259 or 859. Cross-listed in MechEng 7259.			
7861	Scientific Computing on Emerging Architectures	G	3	
	Introduction to the architectural system design of emerging architectures and techniques for managing idiosyncrasies of these architectures for developing scientific computing applications.			
	Prereq: 5362, 762, CSE 2431, or 5431. Not open to students with credit for 694J or 694.03.			
7864	Advanced Computer Design	G	3	
	Parallel computer architectures, pipeline design, multiprocessor design, interprocessor communication, multi-core architectures, case studies and application examples.			
	Prereq: 5362 (662) or Grad standing. Not open to students with credit for 864.			
7866	Computer Vision	G	3	
	Computer vision systems, image models, feature extraction, shape representation and recognition, object modeling and recognition, matching, probabilistic and statistical modeling, semantic knowledge, and face perception.			
	Prereq: 5460 (707). Not open to students with credit for 863.			
7868	Pattern Recognition and Machine Learning	G	3	
	Fundamentals of pattern recognition techniques and their application to computer and electrical engineering problems, medicine, cognitive science, and bioinformatics.			
	Prereq: 6001 (804). Not open to students with credit for both 779 and 874.			
8001	Advanced Topics in Communications	G	3	
	Current topics in information theory and the practice of digital communications.			
	Prereq: 7001 (806). Repeatable to a maximum of 6 cr hrs.			
8101	Advanced Topics in Networking	G	3	
	Advanced topics and new areas of interest in the theory of networking and networked systems.			
	Prereq: 6001 (804). Repeatable to a maximum of 6 cr hrs.			
8193	Individual Studies in Electrical and Computer Engineering	G	0 - 12	
	Individual studies project.			
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			

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8201 Advanced Topics in Signal Processing	G	3
Current topics in the theory and practice of signal processing. Prereq: 7001 (806). Repeatable to a maximum of 6 cr hrs.		
8250 Continuous Time Optimal Control		
Embraces the three historical trends in dynamic optimization: Calculus of Variations, Pontryagin's Minimum Principle, and Bellman's Principle of Optimality. Not only mathematical aspects of the three principles will be taught, but also their strengths and weaknesses - it is often less important to know how to apply a given principle than to know when.	G	3
Prereq: 5551 or MechEng 5372, or permission of instructor. Not open to students with credit for MechEng 8220. Cross-listed in MechEng 8220.		
8862 Special Topics in Advanced Computer Design Methodologies	G	3
Design automation, computer aided design, testing, and design for energy efficiency. Prereq: Grad standing in Engineering. Repeatable to a maximum of 9 cr hrs.		
8891 Seminar in Electrical and Computer Engineering	G	½ - 2
Seminar in Electrical and Computer Engineering. Prereq: Grad standing in ECE. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.		
8898 Open Graduate Seminar	G	½ - 3
Introduction to potential research areas. Students will attend OSU sponsored talks relevant to topics in Electrical Engineering and critique them through written reports. Prereq: Grad standing in ECE. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		
8999 Research for Dissertation	G	½ - 15
Research for dissertation. Repeatable to a maximum of 30 completions. This course is graded S/U.		

Engineering

1100.01 Introduction to Ohio State and Mechanical and Aerospace Engineering	U	1
Introduction to the University community and College of Engineering: strategies for successful transition, academic requirements, university procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in College of Engineering. Not open to students with credit for FAES 1100, ArtsSci 1100, HumanEc 1100, or Exp 1100.		
1100.02 Introduction to Ohio State and Aviation		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.	U	1
1100.03 Introduction to Ohio State and Biomedical Engineering		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.	U	1
1100.05 Introduction to Ohio State and Civil and Environmental Engineering		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.	U	1
1100.06 Introduction to Ohio State and Computer Science and Engineering		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.	U	1
1100.07 Introduction to Ohio State and Electrical and Computer Engineering		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.	U	1
1100.08 Introduction to Ohio State and Engineering Physics		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.	U	1

1100.09 Introduction to Ohio State and Environmental Engineering	U	1
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.		
1100.10 Introduction to Ohio State and Food, Agricultural, and Biological Engineering		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.	U	1
1100.11 Introduction to Ohio State and Industrial and Systems Engineering		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.	U	1
1100.12 Introduction to Ohio State and Materials Science and Welding Engineering		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for ArtsCol 1100, ArtsSci 1100, Exp 1100, FAES 1100, or HumanEc 1100.	U	1
1100.13 Introduction to Ohio State and Mechanical Engineering		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.	U	1
1100.14 Introduction to Ohio State and Welding Engineering		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.	U	1
1100.15 Introduction to Ohio State and Engineering		
Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services. Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsCol 1100, ArtsSci 1100, HumanEc 1100, and Exp 1100.	U	1
1110.01 Introduction to Ohio State and Aeronautical and Astronautical Engineering I		
Introduction to the University community and College of Engineering: Strategies for successful transition; Academic requirements; University procedures; Grading system; Resources; Overview of engineering academic areas of study and services. Prereq: Enrollment in Engineering. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), or USAS 1100 (100).	U	½
1110.02 Introduction to Ohio State and Aviation I		
Introduction to the University community and College of Engineering: Strategies for successful transition; Academic requirements; University procedures; Grading system; Resources; Overview of engineering academic areas of study and services. Prereq: Enrollment in Engineering. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), or USAS 1100 (100).	U	½
1110.03 Introduction to Ohio State and Biomedical Engineering I		
Introduction to the University community and College of Engineering: Strategies for successful transition; Academic requirements; University procedures; Grading system; Resources; Overview of engineering academic areas of study and services. Prereq: Enrollment in Engineering. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), or USAS 1100 (100).	U	½
1110.04 Introduction to Ohio State and Chemical and Biomolecular Engineering I		
Introduction to the University community and College of Engineering: Strategies for successful transition; Academic requirements; University procedures; Grading system; Resources; Overview of engineering academic areas of study and services. Prereq: Enrollment in Engineering. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), or USAS 1100 (100).	U	½

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1120.12	Introduction to Ohio State and Materials Science and Engineering II	U	½		1186.01	Fundamentals of Engineering for Transfer - CAD	U	1½
	Assessment of major / academic interests, advanced study skills, campus activities, program enrichment opportunities, engineering services, internships, and development of a personalized four-year curricular plan in an engineering major.				Introduction to 3D visualization and CAD; written, oral and visual communications.			
	Prereq or concur: Engr 1110.XX. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), and USAS 1100 (100).				Prereq: Not open to students with credit for Engineer 186.			
1120.13	Introduction to Ohio State and Mechanical Engineering II	U	½		1186.02	Fundamentals of Engineering for Summer Academy - CAD	U	1½
	Assessment of major / academic interests, advanced study skills, campus activities, program enrichment opportunities, engineering services, internships, and development of a personalized four-year curricular plan in an engineering major.				Introduction to 3D visualization and CAD; written, oral and visual communications.			
	Prereq or concur: Engr 1110.XX. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), and USAS 1100 (100).				Prereq: Admission to Engineering Summer Academy. Not open to students with credit for Engineer 186.			
1120.14	Introduction to Ohio State and Welding Engineering II	U	½		1187	Fundamentals of Engineering for Transfer - MATLAB	U	1
	Assessment of major / academic interests, advanced study skills, campus activities, program enrichment opportunities, engineering services, internships, and development of a personalized four-year curricular plan in an engineering major.				Engineering problem solving utilizing computational tools such as Matlab.			
	Prereq or concur: Engr 1110.XX. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), and USAS 1100 (100).				Prereq or concr: Math 1150 or above. Not open to students with credit for Engr 1221 or Engineer 187.			
1120.15	Introduction to Ohio State and Engineering II	U	½		1188	Fundamentals of Engineering for Transfer - Problem Solving and Design	U	1½
	Assessment of major/academic interests, advanced study skills, campus activities, program enrichment opportunities, engineering services, internships, and development of a personalized four-year curricular plan in an engineering major.				Introduction engineering problem solving and design through a hands-on design build project; teamwork; written, oral and visual communications; project management.			
	Prereq or concr: 1110.xx. Not open to students with credit for Engr 1100 (Engineer 100), FAES 1100 (100), ENR 1100 (NatRes 100), EXP 1100 (USAS 100).				Prereq: Engr 1186 and 1187, or 1187 and 1121. Concur: Math 1151 or above, or equiv. Not open to students with credit for Engineer 185.			
1121	Graphic Presentation	U	2		1194	Group Studies in Engineering	U	1 - 4
	Presentation of three-dimensional subjects by precise graphics: orthographic, sectional, pictorial, and introduction to computer graphics.				Special topics of general interest to engineering students.			
	Prereq: Not open to students with credit for EnGraph 121.				Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.			
1138	Fundamentals of Mathematics for Engineers	U	4		1194H	Group Studies in Engineering - Honors	U	1 - 4
	This application-oriented, hands-on, introduction to engineering mathematics course will provide an overview of the salient math topics most heavily used in beginning engineering courses. All math topics will be presented within the context of an engineering application, and reinforced through extensive examples of their use in the core engineering courses.				Special topics of general interest to engineering honors students.			
	Prereq: Math Placement Level N. Not open to students with credit for Math 1151. Cross-listed in Math.				Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.			
1180	Spatial Visualization Practice and Development	U	1		1195	Women in Engineering Seminar	U	1
	Provide instruction and exercises to develop spatial visualization skills in preparation for Fundamentals of Engineering and advanced coursework.				Guest speakers share their knowledge and experience about the career options available in engineering; class discussions; activities for building professional awareness.			
	Prereq: Not open to students with credit for Engineer 180.				Prereq: First-year Women in Engineering learning community students (Autumn semester only). Repeatable to a maximum of 5 cr hrs. This course is graded S/U.			
1181.01	Fundamentals of Engineering I	U	2		1195.02	Women in Engineering Second Year Seminar Course	U	½
	Engineering problem solving utilizing computational tools such as Excel and Matlab; hands-on experimentation; modeling; ethics; teamwork; written, oral and visual communications.				This Seminar Course will provide 2nd year students in the Women in Engineering Learning Community (LC) with information and content relative to second year engineering students in terms of professional development, undergraduate engineering research opportunities, faculty and professional engineering interactions.			
	Prereq or concr: Math 1140 or 1141; or Math 1150 or above. Not open to students with credit for Engineer 183.01, 183.02, Engr 1182.01, 1182.02, 1182.03, 1282.01, 1282.02, 1282.03, 1282.04, 1186.01, 1187, or 1188.				Prereq: Soph or Jr standing, and enrollment in the College of Engineering. This course is graded S/U.			
1181.02	Fundamentals of Engineering I - Scholars	U	2		1196	Minority Engineering Program Seminar	U	1
	Engineering problem solving utilizing computational tools such as Excel and Matlab; hands-on experimentation; modeling; ethics; teamwork; written, oral and visual communications.				Course is designed to assist beginning engineering students in making a smooth and informed transition from high school to college. The goal is to aid each student in making a positive adjustment to his/her new environment while exploring and planning career opportunities in the broad field of engineering along with enhancing their personal growth and development.			
	Prereq or concr: Math 1140 or 1141; or Math 1150 or above; and Scholar status. Not open to students with credit for Engineer 183.01, 183.02, Engr 1182.01, 1182.02, 1182.03, 1186.01, 1187, or 1188.				Repeatable to a maximum of 5 cr hrs. This course is graded S/U.			
1182.01	Fundamentals of Engineering II	U	2		1197.01	Green Engineering Scholars Seminar	U	1
	Introduction to 3D visualization and CAD; engineering design-build process; teamwork; written, oral and visual communications; project management.				Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to Scholars program theme; students rights, responsibilities, and expectations; overview of relevant major and careers.			
	Prereq: 1181.01 or 1181.02 or 1281.01H or 1281.02H or 1281.03H. Prereq or Concur: Math 1141; or Math 1151 or above. Not open to students with credit for Engineer 181.01 or 181.02 or Engr 1186 or 1187 or 1188; not repeatable if credit earned for 1182.01 or 1182.02 or 1182.03 or 1282.01H or 1282.02H or 1282.03H or 1282.04H.				Prereq: Enrollment in Green Engineering Scholars Program, or permission of instructor. Repeatable to a maximum of 2 ch hrs.			
1182.02	Fundamentals of Engineering II - Scholars	U	2		1197.02	Humanitarian Engineering Scholars Seminar	U	1
	Introduction to 3D visualization and CAD; engineering design-build process; teamwork; written, oral and visual communications; project management.				Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to Scholars program theme; students rights, responsibilities, and expectations; overview of relevant major and careers.			
	Prereq: 1181.01 or 1181.02 or 1281.01H or 1281.02H or 1281.03H, and Scholars status.				Prereq: Enrolled in Humanitarian Engineering Scholars Program, or permission of instructor. Repeatable to a maximum of 2 ch hrs.			
	Prereq or concr: Math 1151 or above. Not open to students with credit for Engineer 181.01 or 181.02 or Engr 1186 or 1187 or 1188; not repeatable if credit earned for 1182.01 or 1182.02 or 1182.03 or 1282.01H or 1282.02H or 1282.03H or 1282.04H.							
1182.03	Fundamentals of Engineering II - Nanotechnology	U	2		1221	Introduction to Computer Programming in MATLAB for Engineers and Scientists	U	2
	Introduction to 3D visualization and CAD; engineering design-build process; teamwork; written, oral and visual communications; project management.				Introduction to computer programming and problem solving techniques with MATLAB applications in engineering and the physical sciences; algorithm development; programming lab experience.			
	Prereq: 1181.01 or 1181.02 or 1281.01H or 1281.02H or 1281.03H. Concur: Math 1141; or Math 1151 or above. Not open to students with credit for Engineer 181.01 or 181.02 or Engr 1186 or 1187 or 1188; not repeatable if credit earned for 1182.01 or 1182.02 or 1182.03 or 1282.01H or 1282.02H or 1282.03H or 1282.04H.				Prereq: Engr 1181.01 or 1181.02 or 1187 or 1281.01H or 1281.02H or 1281.03H. Not open to students with credit for Engineer 167 or CSE 205. This course is available for EM credit. Cross-listed in CSE.			
1182.04	Fundamentals of Engineering II - Problem Solving	U	2		1222	Introduction to Computer Programming in C++ for Engineers and Scientists	U	3
	Introduction to 3D visualization and CAD; engineering design-build process; teamwork; written, oral and visual communications; project management.				Introduction to computer programming and to problem solving techniques using computer programs with applications in engineering and the physical sciences; algorithm development; programming lab experience.			
	Prereq: 1181.01 or 1181.02 or 1281.01H or 1281.02H or 1281.03H. Concur: Math 1141; or Math 1151 or above. Not open to students with credit for Engineer 181.01 or 181.02 or Engr 1186 or 1187 or 1188; not repeatable if credit earned for 1182.01 or 1182.02 or 1182.03 or 1282.01H or 1282.02H or 1282.03H or 1282.04H.				Concur: Math 1151 or equiv. Not open to students with credit for Engr 1281.01H, 1281.02H, or Engineer 167. This course is available for EM credit. Cross-listed in CSE.			

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1259 Fundamentals of Academic Success for Engineering Students	U	3	2362 History of American Technology	U	3
Teaches time management and study skills to promote academic success. Students learn study skills and practice time management in relation to their engineering coursework. Prereq: Enrollment in the College of Engineering.					
1281.01H Fundamentals of Engineering for Honors I	U	5	2367 American Attitudes About Technology	U	3
Engineering problem solving utilizing computational tools such as Excel and MATLAB; algorithm development; introduction to C++ programming for engineering; hands-on experimentation; modeling; ethics; teamwork; written, oral and visual communications. Prereq: Honors standing, and enrollment in the College of Engineering; or permission of instructor. Prereq or concr: Math 1151, 1161.02, or 1181H. Not open to students with credit for 1181.01, 1181.02, Engineer 191.01H, 191.02H, or CSE/Engr 1222.					
1281.02H Fundamentals of Engineering for Honors I - Advanced Programming	U	5	2367.01H Honors American Attitudes About Technology	U	3
Engineering problem solving utilizing computational tools such as Excel and MATLAB; algorithm development; introduction to C++ programming for engineering; hands-on experimentation; modeling; ethics; teamwork; written, oral and visual communications. This variant of the course is intended for students who are advanced in computer programming skills. Prereq: Honors standing, and enrollment in the College of Engineering; or permission of instructor. Prereq or concr: Math 1151, or 1161.02, or 1181H. Not open to students with credit for 1181.01, 1181.02, Engineer 191.01H, 191.02H, or CSE/Engr 1222.					
1281.03H Fundamentals of Engineering for Honors I - Labview	U	5	2797.01 Engineering Study Abroad in North America	U	½ - 12
Engineering problem solving utilizing computational tools such as Excel and MATLAB; algorithm development; introduction to LabVIEW for engineering; hands-on experimentation; modeling; ethics; teamwork; written, oral and visual communications. This variant of the course is intended for students who need or prefer an introduction to LabVIEW. Prereq: Honors standing, and enrollment in the College of Engineering; or permission of instructor. Prereq or concr: Math 1151, 1161.02, or 1181H. Not open to students with credit for 1181.01, 1181.02, Engineer 191.01H, or 191.02H or CSE/Engr 1222.					
1282.01H Fundamentals of Engineering for Honors II - Robotics	U	3	2797.02 Engineering Study Abroad in Central America	U	½ - 12
Introduction to 3D visualization and CAD; engineering design-build process; teamwork; written, oral and visual communications; project management. Standard course incorporating a robot design-build project. Prereq: Honors standing, and 1281.01H or 1281.02H or 1281.03H, and enrollment in the College of Engineering; or permission of instructor. Not open to students with credit for 1182.01, 1182.02, 1182.03, Engineer 193.01H, or 193.02H.					
1282.02H Fundamentals of Engineering for Honors II - Nanotechnology	U	3	2797.03 Engineering Study Abroad in South America	U	½ - 12
Introduction to 3D visualization and CAD; engineering design process; teamwork; written, oral and visual communications; project management. Alternative course with an emphasis on a nanotechnology research and development project. Prereq: Honors standing, and 1281.01H or 1281.02H or 1281.03H, and enrollment in the College of Engineering; or permission of instructor. Not open to students with credit for 1182.01, 1182.02, 1182.03, Engineer 193.01H, or 193.02H.					
1282.03H Fundamentals of Engineering for Honors II - Infrastructure	U	3	2797.04 Engineering Study Abroad in East Asia	U	½ - 12
Introduction to 3D visualization and CAD; engineering design process; teamwork; written, oral and visual communications; project management. Alternative course with an emphasis on infrastructure design project or other alternate design project. Prereq: Honors standing, and 1281.01H or 1281.02H or 1281.03H, and enrollment in the College of Engineering; or permission of instructor. Not open to students with credit for 1182.01, 1182.02, 1182.03, Engineer 193.01H, or 193.02H.					
1282.04H Fundamentals of Engineering for Honors 2 - Integrated Business & Engineering	U	3	2797.05 Engineering Study Abroad in South Asia	U	½ - 12
Introduction to 3D visualization and CAD; engineering design process; teamwork; written, oral and visual communications; project management. An alternative to the standard 1282.01H course with an emphasis on a product design project within the Integrated Business and Engineering (IBE) Honors program. Prereq: Honors standing, and 1281.01H or 1281.02H or 1281.03H or permission of instructor, and enrollment in Integrated Business and Engineering (IBE) program. Not open to students with credit for 1182.01 or 1182.02 or 1182.03.					
2193 Individual Studies in Engineering	U	1 - 4	2797.06 Engineering Study Abroad in Central Asia	U	½ - 12
Special topics of general interest to engineering students not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.					
2194 Group Studies in Engineering	U	1 - 4	2797.07 Engineering Study Abroad in Oceania	U	½ - 12
Special topics of general interest to engineering students. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.					
2194H Group Studies in Engineering	U	1 - 4	2797.08 Engineering Study Abroad in Middle East	U	½ - 12
Special topics of general interest to engineering honors students not otherwise offered. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.					
2361 History of Ancient Engineering	U	3	2797.09 Engineering Study Abroad in Africa	U	½ - 12
History of ancient engineers, engineering processes and products. Prereq: English 1110 (110) or equiv. Not open to students with credit for Engineer 360.01. GE historical study course.					
3194 Group Studies in Engineering	U	1 - 4	2797.10 Engineering Study Abroad in Europe	U	½ - 12
Special topics of general interest to engineering students not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.					
4191 Professional Practice in Engineering	U	0	2797.11S Service Learning Trip to Montana de Luz, Honduras	U	3
Students will take this course and then participate in the in-country field portion of the Engineering Service-Learning/Montana de Luz, Honduras program series. Students will travel to Honduras and implement and evaluate the projects they developed in the Spring Semester. In addition, the students will complete technical documentation and present their projects in a conference-style format. Application required. Repeatable to a maximum of 9 cr hrs.					
3194 Group Studies in Engineering	U	1 - 4			
Special topics of general interest to engineering students not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.					
4193 Individual Studies in Engineering	U	1 - 4			
Special topics of general interest to engineering students not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.					
4194 Group Studies in Engineering	U	1 - 4			
Special topics of general interest to engineering students not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.					

4194H Group Studies in Engineering Honors	U	1 - 4	5050 Humanitarian Engineering	U G	3
Special topics of general interest to engineering honors students not otherwise offered.			Poverty and underdevelopment. Goal of social justice. Development strategies. Engineering for the poor, weak, and developing communities. Humanitarianism in the university and engineering enterprise.		
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			Prereq: 1182 or 1282; or Grad standing; or permission of instructor.		
4401 The Ohio State Engineer Magazine Staff	U	1 - 3	5081.01 Engineering Capstone Collaboration I	U G	3
Designed for writers, photographers, and other contributors to The Ohio State Engineer Magazine.			Students contract to collaborate with an engineering capstone design team for two semesters and contribute their disciplinary expertise.		
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Prereq: Permission of instructor. Not open to Engineering Majors.		
4410.01 Computer Graphics Using AutoCad	U	2	5081.02 Engineering Capstone Collaboration II	U G	3
An advanced course in graphics with emphasis on the application on computer generated graphics to the solution of engineering problems. AutoCad and Civil 3D to be used.			Students contract to collaborate with an engineering capstone design team for second semester and contribute their disciplinary expertise.		
Prereq: Engr 1182, 1185, or 1282. Not open to students with credit for EnGraph 410.			Prereq: Permission of instructor. Not open to Engineering Majors.		
4410.02 Computer Graphics Using SolidWorks	U	2	5168 Data Acquisition with LabVIEW	U G	2
An advanced course in graphics with emphasis on the application on computer generated graphics to the solution of engineering problems. SolidWorks to be used.			Intended for advanced undergraduate and graduate students who need to use computer based data acquisition (DAQ) with LabVIEW either in preparation for other coursework, or for research. It will consist of DAQ concepts, methods, and standard approaches to DAQ programming, emphasizing real world interaction with a hands-on laboratory component.		
Prereq: Engr 1121 or 1182 or 1185 or 1282. Not open to students with credit for EnGraph 410.			Prereq: 1221 or 1222 or 1281.01H or 1281.02H or 1281.03H, or CSE 1221 or 1222 or 1223, or MechEng 2850, or Grad standing.		
4692.01S Service Learning in Engineering	U	1 - 3	5194 Group Studies in Engineering	U G	1 - 4
Experimental education characterized by participation in an organized service activity connected to specific learning outcomes. Meets community needs and includes student reflection.			Special topics of general interest to engineering students not otherwise offered.		
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions.			Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.		
4692.02S Engineering Service Learning Ghana Preparation	U	3	5680 Leading in Engineering Organizations	U G	1½
International Engineering Service Learning Program developed by the College of Engineering, OIA and Knowlton School of Architecture's City and Regional Planning. This iESL Program preparation course teaches the concepts of humanitarian engineering through an authentic real world service learning experience.			Understanding and utilizing keys to leading in engineering. Exposure to the underpinning of leadership in engineering environments including tenets, theories, debates, strategies, and innovation techniques.		
Prereq: Second writing course, or Grad standing in the College of Engineering; or permission of instructor. Repeatable to a maximum of 9 cr hrs.			Prereq: Not open to students with credit for Engineer 680.		
4850 Translating Engineering Research to K-8 (TEK8)	U	3	5695 Engineering Teamwork Seminar	U G	1
Students translate a prior engineering research experience through developing and delivering and documenting mini-design challenges for an underserved K-8 school partner.			Interactive training seminar that teaches communications and interpersonal skills vital to success as an engineer in industry. Sponsored by Tau Beta Pi National Engineering Honor Society.		
Prereq: 1182, 1188, or 1282H; and permission of instructor.			Repeatable to a maximum of 2 cr hrs. This course is graded S/U.		
4891 Colloquia, Workshops, and College Seminars	U	1 - 4	5710 Engineering Research Communications	U G	3
Special colloquia, workshops or seminars of general interest to engineering students.			Engineering technical communications for academic writing and professional presentations, including authoring refereed journal articles and authoring and presenting conference papers in engineering disciplines.		
Repeatable to a maximum of 4 cr hrs or 4 completions. This course is graded S/U.			Prereq: Sr or Grad standing.		
4891.01 College Seminar - Perspectives on Sustainability	U	1	5797.01 Engineering Study Abroad in North America	U G	½ - 12
A broad view of sustainability and the environment, with the opportunity to see sustainability through different perspectives. Speakers from different areas of expertise will present on a variety of sustainability topics so students can better understand why sustainability is both important and complex.			Study abroad in North America.		
Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.		
4891.02 College Seminar - Promoting Creativity and Innovation	U	2	5797.02 Engineering Study Abroad in Central America	U G	½ - 12
Tools to refine creative motivation and to encourage multidisciplinary innovation. Fostering an appreciation for the processes of innovative design and prototyping by enabling students to explore the concept of creativity through a variety of speaker experiences.			Study abroad in Central America.		
Repeatable to a maximum of 4 cr hrs.			Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.		
4901 Introduction to Multidisciplinary Capstone Design	U	2	5797.03 Engineering Study Abroad in South America	U G	½ - 12
A multidisciplinary introduction to the modern engineering design principles, process, professional skills and specific tactical tools used for project management during design. This course is a 1/2 semester (7 week) course.			Study abroad in South America.		
Prereq: Sr or Grad standing, and permission of instructor. Not open to students with credit for Engineer 658.			Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.		
4910 Tools for Engineering Career Success	U	1	5797.04 Engineering Study Abroad in East Asia	U G	½ - 12
Designed to prepare students for an effective internship/co-op and job search. Covers a range of topics including: self-assessment, goal setting, time management, communication and correspondence, resumes, and interviewing. Course will also feature experienced guest speakers from industry. Must be registered with Engineering Career Services.			Study abroad in East Asia.		
Prereq: Enrollment in the College of Engineering. This course is graded S/U.			Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.		
4998.01 Undergraduate Research in Engineering Education	U	1 - 4	5797.05 Engineering Study Abroad in South Asia	U G	½ - 12
Opportunity for undergraduates to conduct research in engineering education.			Study abroad in South Asia.		
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.			Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.		
4998.02 Undergraduate Research in Engineering	U	1 - 4	5797.06 Engineering Study Abroad in Central Asia	U G	½ - 12
Opportunity for undergraduates to conduct research in engineering.			Study abroad in Central Asia.		
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.			Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.		
4999H Engineering Education Research for Thesis	U	1 - 5	5797.07 Engineering Study Abroad in Oceania	U G	½ - 12
Honors program students are offered the opportunity to pursue independent project/research. Student presentation and thesis writing included.			Study abroad in Oceania.		
Prereq: Honors standing, and Sr standing, and CPHR 3.4 or above; or permission of instructor.			Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.		
Repeatable to a maximum of 5 cr hrs or 5 completions. This course is graded S/U.			5797.08 Engineering Study Abroad in Middle East	U G	½ - 12
			Study abroad in the Middle East.		
			Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.		
			5797.09 Engineering Study Abroad in Africa	U G	½ - 12
			Study abroad in Africa.		
			Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.		
			5797.10 Engineering Study Abroad in Europe	U G	½ - 12
			Study abroad in Europe.		
			Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.		

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5797.11S Engineering Service-Learning in Honduras

U G 3

During the Engineering Service-Learning in Honduras program, students will travel to Honduras and implement, test, and evaluate the technologies they developed through Spring Semester. In addition, the students will complete technical documentation and present their projects in a conference-style format once they have returned from spring break travel. Prereq: Jr, Sr, or Grad standing, or permission of instructor.

5797.12 Exploring Culture and Engineering in India

U G 3

Students will travel to Jaipur, Agra, and Delhi, India to focus on the culture, history, and religion of India. Students will implement a design project they created in spring semester. Prereq: 4692.01S in Sp Sem.

5797.13 Engineering the Castles and Cathedrals of England and Wales

U G 3

A study abroad trip to England and Wales for the purpose of understanding the importance of several iconic castles and cathedrals and the various methods used for their construction. Participants must be physical fit enough to walk an extended length of time, negotiate rough terrain, climb steep steps, and not be afraid of heights. GE historical study and diversity global studies course.

5797.14 OSU - Colombia Collaboration

U G 3

This study abroad course is to focus on development of education in Colombia at the K-12 level via STEM education for students and collaborations with teachers to develop materials for students; and at the university level by collaboratively developing low-cost engineering experiments for laboratories, along with on-line instructional materials. Prereq: 5050 or permission of instructor. Repeatable to a maximum of 15 cr hrs.

5797.15 Korea Aerospace University International Summer Program

U G 3

This course allows students to enroll in the Korea Aerospace University's International Summer Program and earn credits towards a degree in Aviation. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

5797.16S Engineering Service-Learning Haiti

U G 3

Engineering Service-Learning Haiti is the in-country/service/travel portion of the course ESHESA 2577, Crossing Identity Boundaries: A Journey Towards Intercultural Leadership, which is currently offered during the spring semester. Concur: ESHESA 2577. Repeatable to a maximum of 9 cr hrs.

5797.17S Engineering Service-Learning Ghana In Country

U G 3

Engineering Service-Learning Ghana is the in-country/service/travel portion of the course ENGR 4692.02S, which is offered autumn semester. Travel and service will be conducted during the break between autumn and spring semesters.

Prereq: 4692.02S, or permission of instructor. Repeatable to a maximum of 9 cr hrs.

5797.18 Engineering of Ancient Greece

U G 3

A study abroad trip to Greece for the purpose of understanding the importance of the influences and continuing contributions to society of Ancient Greece's Engineering and Technological advancements. Students will visit various significant engineering marvels and examine the methods used for their formulation and construction. GE cultures and ideas course.

5797.19 Design Principles and Biomedical Research at Nanjing University

U G 3

Internationalized medical device design course. Introduction to design principles; needs finding, idea generation, and presentation of projects that focus on helping persons with medical based problems. Documentation and technical skills are developed throughout the course. Activities in team-building, cultural awareness and global engineering are emphasized throughout the course. Prereq: Math 2177, or 2174, or 2255 and 2568, or 2415 and 2568, or for CSE students 2568; Jr or Sr standing in the College of Engineering; and permission of instructor. Repeatable to a maximum of 6 cr hrs.

5797.20 Sustainable and Resilient Infrastructure in Italy

U G 3

During pre-travel lectures and assignments and a two-week in country trip, eligible students will compare and contrast differences between Italy and US built infrastructure, explore historical and cultural reasons for differences between the countries, and envision more sustainable and resilient built infrastructure. Application to the College of Engineering Study Abroad Program required.

Prereq: EnvEng 3200 or CivilEn 3310.

5797.21 Sustainable and Resilient Tanzanian Communities - Engineering

U G 2

A preparatory course for students traveling to Tanzania as part of the CEGE Sustainable Resilient Tanzanian Community program. This course will provide civil engineering students with the skills necessary to be successful in communicating and implementing the designs they generate as part of their capstone courses in the communities they were developed for. Prereq: CivilEn 4000.01. Concur: CivilEn 4000.02, or permission of instructor. Course is graded S/U.

5901.01 Multidisciplinary Engineering Capstone Design Project I

U G 3

A multidisciplinary engineering capstone design experience which will utilize principles of multiple engineering disciplines for sponsored design projects. This course is full semester (14 week) course. Progress graded with Engr 5902.01.

Prereq: Sr or Grad standing, and permission of instructor. Not open to students with credit for 5901.01 and 5902.01. This course is progress graded.

5901.02H Multidisciplinary Engineering Capstone Design Project II - Honors IBE

U G 3

This course is an honors version of ENGR 5901.01 and is required for the Integrated Business and Engineering (IBE) program. Students in multidisciplinary teams work on realistic and open-ended product development projects in conjunction with an industry sponsor. Teams practice modern development principles applying the concept of design thinking, user-focused design, and minimally viable product.

Prereq: Honors standing, and Sr standing in Engineering or Business, and enrollment in Integrated Business and Engineering (IBE) program; or permission of instructor.

5902.01 Multidisciplinary Engineering Capstone Design Project II

U G 3

An integrated sequence constituting a multidisciplinary engineering capstone design experience which will utilize principles of multiple engineering disciplines for sponsored design projects. Sequenced with 5901.01.

Prereq: 5901.01, or permission of instructor. This course is progress graded.

5902.02H Multidisciplinary Engineering Capstone Design Project II - Honors IBE

U G 3

This course is an honors version of ENGR 5902.01 and is required for the Integrated Business and Engineering (IBE) program. Students in multidisciplinary teams work on realistic and open-ended product development projects in conjunction with an industry sponsor. Teams practice modern development principles applying the concept of design thinking, user-focused design, and minimally viable product.

Prereq: 5901.02H, and Honors standing, and Sr standing in Engineering or Business, and enrollment in the Integrated Business and Engineering (IBE) program; or permission of instructor.

6193 Individual Studies in Engineering

G 1 - 4

Opportunity for students to participate in supervised individual engineering experiences.

Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

6194 Group Studies in Engineering

G 1 - 4

Special topics of general interest to engineering students not otherwise offered.

Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

6210 Leadership and Team Effectiveness for Engineers

G 3

Introduction to topics in leadership and team effectiveness with a focus on applications for engineers.

Prereq: Grad standing, and enrollment in MGEL degree program; or permission of instructor.

6220 Financial and Managerial Accounting for Engineers

G 3

Provides an overview of the basic topics in financial and managerial accounting. The primary focus will be on helping engineering students understand the meaning of the numbers in financial statements, their relationship to one another, and learning how they are used in planning, decision-making and control towards achieving the objectives of an organization.

Prereq: Grad standing, or permission of instructor; and enrollment in MGEL degree program. Not open to students with credit for AcctMIS 5000.

6230 Technology Strategy & Innovation for Engineers

G 3

How technology strategy may lead to creation/persistence of competitive advantage. In contrast to core strategy course, provides series of strategic frameworks for managing high-tech businesses.

Prereq: Grad standing, and enrollment in MGEL degree program; or permission of instructor. Not open to student with credit for BusMHR 7461.

6892.01 Studies in Engineering for In-Service Teachers

G 1

In-Service Teachers will explore engineering topics and methods that may be incorporated into the courses they teach.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

7100 MGEL Integrative Project

G 1 - 5

Non-thesis research investigation; instructor-guided; comprehensive report required. Required course for MGEL program, in final or final two semesters of program. Total credits required: 5. Prereq: Enrollment in the Master Global Engineering Leadership program. Repeatable to a maximum of 5 cr hrs or 2 completions.

7193 Individual Studies in Engineering

G 1 - 4

Opportunity for students to participate in supervised individual engineering experiences.

Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

7194 Group Studies in Engineering

G 1 - 4

Special topics of general interest to engineering students.

Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

7200 Engineering Ethics and Professionalism

G 1

To learn professionalism and ethical decision-making strategies; topics include codes of ethics, moral frameworks, engineering as social experimentation, assessment of safety and risk, employer and employee rights and responsibilities, confidentiality and conflict of interest, whistle-blowing, research integrity, consulting engineers, expert witnesses. Engineering ethics case studies in detail

7240	Education Research Methods in Engineering	G	3
Designing engineering educational research projects including authoring proposals for funding agencies.			
Prereq: Grad standing.			
7881	Interdepartmental Seminar	G	1 - 4
Seminars of general interest to engineering students.			
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			
7891	Colloquia, Workshops, and Seminars	G	1 - 4
Special colloquia, workshops or seminars of general interest to engineering students.			
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			
8194	Group Studies in Engineering	G	1 - 4
Special topics of general interest to engineering students.			
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			
8998	Research in Engineering Education	G	1 - 10
Opportunity to conduct research in engineering education.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.			
This course is graded S/U.			
8999	Research in Engineering Education for Dissertation	G	1 - 10
Opportunity to conduct dissertation research in engineering education.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.			
This course is graded S/U.			

Engineering Technology

1201.01T	Exploring Engineering Technologies	U	½
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.			
1201.02T Exploring Construction Careers and Industry			
1201.02T	Exploring Construction Careers and Industry	U	½
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.			
1201.03T Exploring Agricultural Systems Management			
1201.03T	Exploring Agricultural Systems Management	U	½
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.			
2011T	Small Engine Basics	U	4
A study of the theory of operation, service and maintenance and repair of small off-road gasoline and diesel engines.			
Prereq: Not open to students with credit for 240T and 247T. This course is available for EM credit.			
2015T	Agricultural Equipment Operation and Maintenance	U	2
A study of tractors and other agricultural equipment with emphasis on operation, maintenance and adjustment for safe, efficient operation.			
Prereq: Not open to students with credit for 215.01T or 215.02T. This course is available for EM credit.			
2016T	Tillage, Planting, Harvesting, and Storage Equipment	U	3
Principles and applications of safely operating, adjusting, and maintaining agricultural equipment and storing crops. Recommended prereq: Completion of tractor/mobile equipment safety certification process.			
Prereq: Not open to students with credit for 216T, 217T, and 231T. This course is available for EM credit.			
2040T	Soil and Water Conservation Systems	U	4
Introduction to erosion control, irrigation, drainage, and wetland systems with an emphasis on land surveying and mapping, system selection, and design.			
Prereq: CrpSoil 2300T and CrpSoil 2301T (221T). Not open to students with credit for 224T. This course is available for EM credit.			
2050T	Introduction to Geographic Information Systems	U	3
A study of spatial relationships using global positioning and geographic information systems in urban and rural landscapes.			
Prereq: GenMath 1040T or Math 1050 or Math placement level R or higher. This course is available for EM credit.			
2092T	Problem Solving: Career and Society Applications	U	2
A multi-discipline, problem-solving course with emphasis on the application of problem solving and related topics in career and society settings.			
Prereq: Soph standing. Not open to students with credit for 292T. This course is available for EM credit.			
2110T	Construction Drawings & Basic Estimating	U	1
Reading and interpretation of various types of construction drawings, as well as an introduction to material quantity calculations and estimate development.			
Prereq: GenMath 1030T or Math placement level S or higher. This course is available for EM credit.			

2120T	Building Science: Methods & Materials	U	4
A study of materials science and installation methods used in residential and commercial construction. Emphasizes structural and architectural systems, moisture managed designs, air sealing, and thermal design for energy efficient structures.			
Prereq or concr: English 1110.01; GenMath 1145T or Math 1148 or higher. This course is available for EM credit.			
2121T	Drafting & Computer-Aided Design	U	2
Principles and applications of technical drawing utilizing proper drafting techniques for creating two dimensional, scaled drawings both by hand and by using current computer-aided design software. Basic computer skills required. Recommended prereq: Previous experience with mechanical drawing, engineering graphics, drafting, or equivalent.			
This course is available for EM credit.			
2160T	Estimating and Scheduling	U	2
Estimating complete projects and developing project schedules for standard construction projects in the residential or commercial sectors of the industry.			
Prereq: 2110T, 2120T, 2440T, and Soph standing. This course is available for EM credit.			
2170T	Construction Project Management	U	2
Principles and practices of construction project and construction business management.			
Prereq or concr: 2160T, and Soph standing. This course is available for EM credit.			
2191.01T	Construction Management Internship	U	2 - 3
Construction Management occupational internship, structured to provide occupational experiences; supervised by an industry employer and coordinated by faculty. A grade of C or better is required to meet graduation requirements.			
Prereq: 2110T and 2120T (253T, 256T, and 257T), and 2600T, and CPHR 2.0 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.			
2191.02T	Hydraulic Power and Motion Control Internship	U	3
Employment in fluid power industries; structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty. A grade of C or better is required to meet graduation requirements.			
Prereq: 2224T (274T), 2226T (271T), and 2322T (202T); CPHR 2.0 or above; permission of instructor. Repeatable to a maximum of 6 cr hrs.			
2191.03T	Power Equipment Internship	U	3
Employment in power equipment industries; structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty. A grade of C or better is required to meet graduation requirements.			
Prereq: 2314T (241T), 2322T (202T), and 2324T (245T), and CPHR 2.0 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs.			
2191.04T	Agricultural Systems Technology Internship	U	2
Agricultural Systems Technology occupational internship structured to provide occupational experiences; supervised by an industry employer and coordinated by faculty. A grade of C or better is required to meet graduation requirements.			
Prereq: CPHR 2.0 or above, and permission of instructor. Repeatable to a maximum of 4 cr hrs.			
2193T	Individual Studies	U	1 - 3
Designed to give an individual student an opportunity to pursue special studies not offered in other courses.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
This course is graded S/U.			
2194T	Group Studies	U	1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
This course is graded S/U.			
2214T	Fundamentals of Fluid Power and Components	U	4
An introduction to the fluid power industry and the principles of fluid power system operation. Characteristics of operation and performance are investigated for pumps, motors, and valves.			
A grade of C or better required to meet graduation requirements for Hydraulic Power and Motion Control.			
Prereq: GenMath 1030T, or Math placement level S or higher. This course is available for EM credit.			
2221T	Component Rebuilding	U	2
Supervised laboratory experience with emphasis on developing and improving hydraulic component service competencies related to classroom and career activities.			
Prereq: 2214T (262T or 270T). Prereq or concr: 2224T (274T) and 2336T (273T). Not open to students with credit for 289.03T.			
2224T	Fluids, Filtration, and Fluid Conveyance	U	2
Characteristics of hydraulic fluids; methods of filtering oils and of conveying pressurized fluids.			
Prereq: 2214T (262T or 270T). Not open to students with credit for 274T. This course is available for EM credit.			

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2226T Components and Hydraulic Circuits	U 2	
A study of advanced hydraulic component topics and of how fluid power components are integrated into a complete system, including performance characteristics and energy efficiency. A grade of C or better required to meet graduation requirements for Hydraulic Power and Motion Control.		
Prereq: 2214T. Prereq or concur: GenMath 1145T. This course is available for EM credit.		
2234T Basic Pneumatic Systems	U 2	
Principles, operation, maintenance, service, and application of pneumatic components and systems used for control and automation on industrial equipment.		
Prereq or concur: GenMath 1145T. This course is available for EM credit.		
2238T Electrohydraulics and System Design	U 3	
A study of the interface and design applications of electricity and electronics with fluid power components integrated into a complete system, including performance characteristics and energy efficiency. A grade of C or better required to meet graduation requirements for Hydraulic Power and Motion Control.		
Prereq: 2226T (272T). Not open to students with credit for 278T. This course is available for EM credit.		
2240T Welding Technology	U 3	
A study of basic welding including materials, equipment, and techniques.		
Prereq: Not open to students with credit for 250T. This course is available for EM credit.		
2242T Metals and Metal Manufacturing	U 2	
Introduction to metals and metal manufacturing; including materials, equipment, processes, and products.		
Prereq: GenMath 1040T or Math 1050 or Math placement level R or higher. This course is available for EM credit.		
2248T Instrumentation and Control Systems	U 4	
Techniques and equipment used for instrumentation of fluid power systems for the purposes of data acquisition and control.		
Prereq: 2238T (278T). Not open to students with credit for 279T. This course is available for EM credit.		
2310T Building Science: Electrical and Lighting Systems	U 3	
Principles, equipment, and applications of building electrical and lighting systems with emphasis on energy and resource conservation and sustainability.		
Prereq: TecPhys 1150T. Not open to students with credit for 2150T.		
2312T Engineering Technology Fundamentals	U 3	
An introduction to basic scientific and engineering concepts commonly encountered by engineering technicians emphasizing calculations, measurements, and instrumentation. This course is available for EM credit.		
2314T Introduction to Power Equipment	U 3	
An introduction to the off-road machinery industries, their past and future, and the application of engineering principles to the associated equipment.		
Prereq: GenMath 1030T, or Math placement level S or higher. This course is available for EM credit.		
2322T Basic Electricity and Electronics	U 3	
Principles of AC and DC electricity and electronics with emphasis on components, operations, and applications.		
Prereq: GenMath 1040T, Math 1050, or Math placement level R or higher. This course is available for EM credit.		
2324T Engine Diagnosis and Repair	U 3	
An advanced study of multiple cylinder diesel engine diagnostic techniques including repair and rebuilding procedures. A grade of C or better required to meet graduation requirements for Power Equipment.		
Prereq: 2011T (240T) or 2314T (241T). Not open to students with credit for 245T. This course is available for EM credit.		
2325T Analog and Digital Electronics	U 3	
An introduction to analog and digital electronics with emphasis on industry applications. A grade of C or better required to meet graduation requirements for Hydraulic Power and Motion Control.		
Prereq: 2322T (202T). Not open to students with credit for 203T. This course is available for EM credit.		
2331T Distributor Management	U 2	
Organization and operation of distributor marketing of mobile equipment and fluid power components and systems; emphasis on service and parts distribution.		
Prereq or concur: BusTec 1151T or AEDEcon 2001. This course is available for EM credit.		
2332T Mobile Heating and Air Conditioning	U 1	
Principles, operation, maintenance, service, and repair of mobile heating and air conditioning components and systems.		
Prereq: GenMath 1030T, or Math placement level S or higher. This course is available for EM credit.		
2334T Vehicle Electrical and Electronic Systems	U 2	
A study of electrical and electronic systems utilized in off-road machinery. A grade of C or better required to meet graduation requirements for Power Equipment.		
Prereq: 2322T (202T). Prereq or concur: TecPhys 1150T (102T). Not open to students with credit for 205T. This course is available for EM credit.		
2336T Methods of Power Transmission	U 2	
Comparison and evaluation of power transmission by mechanical, electrical, and fluidic means.		
Prereq: GenMath 1030T, or Math placement level S or higher. Prereq or concur: EngTech 2312T. This course is available for EM credit.		
2338T Diesel Engine Systems	U 3	
A study of the principles, operation, and service of diesel engine systems with emphasis on fuel systems and engine controls.		
Prereq: 2324T. Prereq or concur: 2334T and TecPhys 1150T. This course is available for EM credit.		
2345T Building Science: Mechanical Systems	U 3	
Principles, equipment, and applications of building mechanical systems with emphasis on energy and resource conservation and sustainability.		
Prereq: TecPhys 1150T. Not open to students with credit for 2150T. This course is available for EM credit.		
2348T Performance of Mobile Power Units	U 2	
A study of operator comfort and safety, ballast, traction, stability, hitching, engine power ratings, fuel efficiency and other factors affecting the performance and application of mobile power units. A grade of C or better required to meet graduation requirements for Power Equipment.		
Prereq: Completion of tractor/mobile equipment safety certification process.		
Prereq: 2336T (273T), 2338T (248T), TecPhys 1150T (102T). Not open to students with credit for 249T. This course is available for EM credit.		
2440T Site Development and Surveying	U 4	
Principles of hydrology, soil mechanics, and surveying as applied to residential and commercial construction.		
Prereq or concur: 2110T or HortTec 2320T (235T); GenMath 1145T (145T) or Math Placement Level L, M, or N. Not open to students with credit for 253T. This course is available for EM credit.		
2600T Construction Safety & Health	U 2	
Health and construction safety awareness; focusing on OSHA 30-hour training and certification, OSHA mandated recordkeeping, and corporate health plan development.		
Prereq: English 1110.01.		
English		
1109 Intensive Writing and Reading	U 4	
Provides intensive practice in integrating academic reading and writing. Credit may not count toward graduation in some degree programs.		
Prereq: English Placement Test score of 6. Not open to students with credit for 1110.01 (110.01), 1110.01H (110.01H), 1110.02 (110.02), 1110.02H (110.02H), 052, 060, or 110.03, or equiv.		
1110.01 First-Year English Composition	U 3	
Practice in the fundamentals of expository writing, as illustrated in the student's own writing & in the essays of professional writers. May be available as a service learning course with five hours community service required at the Lima campus only.		
Prereq: EduTL1902 (108.01) or 1902.04 (108.01), or English Placement Level 4. Not open to students with credit for 1109 (109.01 or 109.02), 1110.01 (non-DL version), 1110.01H (110.01H), 1110.02 (110.02), 1110.02H (110.02H), 1110.03 (110.03), 1167H (167H), 110.01. This course is available for EM credit. GE writing and comm course: level 1.		
1110.01H Honors First-Year English Composition	U 3	
Provides intensive practice in the fundamentals of expository writing, as illustrated in the student's own writing and in the essays of professional writers.		
Prereq: Honors standing, and 28 or above on the English section of the ACT or 660 on the verbal section of the SAT; or permission of instructor. Not open to students with credit for 1110.01 (110.01), 1110.02 (110.02), 1110.02H (110.02H), 110.01H, 1110.03 (110.03), or 1167H (167H). This course is available for EM credit. GE writing and comm course: level 1.		
1110.02 First-Year English Composition	U 3	
Practice in the fundamentals of expository writing, as illustrated in the student's own writing and in the essays of professional writers. Taught with an emphasis on literary texts.		
Prereq: EduTL 1902 (108.01) or 1902.04 (108.01), or English Placement Level 4. Not open to students with credit for 1109 (109.01 or 109.02), 1110.01 (110.01), 1110.01H (110.01H), 110.02, 1110.02H (110.02H), 1110.03 (110.03), 1167H (167H), or equiv. This course is available for EM credit. GE writing and comm course: level 1.		
1110.02H Honors First-Year English Composition	U 3	
Provides intensive practice in the fundamentals of expository writing, as illustrated in the student's own writing and in the essays of professional writers. Taught with an emphasis on literary texts.		
Prereq: Honors standing, and 28 or above on the English section of the ACT or 660 on the verbal section of the SAT; or permission of instructor. Not open to students with credit for 1110.01 (110.01), 1110.01H (110.01H), 1110.02 (110.02), 110.02H, 1110.03 (110.03), or 1167H (167H). GE writing and comm course: level 1.		

1110.03 First-Year English Composition**U 3**

Intensive practice in fundamentals of expository writing illustrated in the student's own writing and essays of professional writers; offered in a small class setting and linked with an individual tutoring component in its concurrent course, 1193. This course is available for EM credit only through the AP program.

Prereq: 1109, or English Placement Level 5 (Placement Level 4 allowed if student requests service). Concur: 1193. Not open to students with credit for 1110.01 (110.01), 1110.01H (110.01H), 1110.02 (110.02), 1110.02H (110.02H), 1167H (167H), or 110.03, or equiv. GE writing and comm course: level 1.

1167H First-Year Writing Seminar in the Humanities**U 3**

Intensive critical reading and writing concerning central issues in the humanities.

Prereq: Honors standing, and a 4 or 5 on the Advanced Placement Test; or permission of instructor. Not open to students with credit for 167H. GE cultures and ideas course.

1193 Individual Studies**U 1 - 4**

Intensive practice in the fundamentals of expository writing.

Prereq: Permission of Director of First-Year Writing. Concur: 1110.03. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

2194 Group Studies**U 1 - 3**

Topic varies from semester to semester on subjects not otherwise covered by English courses.

Prereq: 1110.01 (110.01), or equiv. Not open to students with 30 qtr cr hrs for 294. Repeatable to a maximum of 18 cr hrs or 18 completions.

2201 Selected Works of British Literature: Medieval through 1800**U 3**

An introductory critical study of the works of major British writers from 800 to 1800.

Prereq: 1110.01 (110.01), or equiv. Not open to students with credit for 2201H (201H) or 201. GE lit and diversity global studies course.

2201H Selected Works of British Literature: Medieval through 1800**U 3**

An introductory critical study of the works of major British writers from 800 to 1800.

Prereq: Honors standing, and 1110.01 (110.01) or equiv. Not open to students with credit for 2201 (201) or 201H. GE lit and diversity global studies course.

2202 Selected Works of British Literature: 1800 to Present**U 3**

An introductory critical study of the works of major British writers of the 19th and 20th centuries.

Prereq: 1110 (110.01), or equiv. Not open to students with credit for 2202H (202H) or 202. GE lit and diversity global studies course.

2202H Selected Works of British Literature: 1800 to Present**U 3**

An introductory critical study of works of major British writers of the 19th and 20th centuries.

Prereq: Honors standing, and 1110.01 (110.01), or equiv. Not open to students with credit for 2202 (202) or 202H. GE lit and diversity global studies course.

2220 Introduction to Shakespeare**U 3**

Study of selected plays designed to give an understanding of drama as theatrical art and as an interpretation of fundamental human experience.

Prereq: 1110.01 (110.01), or equiv. Not open to students with credit for 2220H (202H) or 220. GE lit and diversity global studies course.

2220H Introduction to Shakespeare**U 3**

Study of selected plays designed to give an understanding of drama as theatrical art and as an interpretation of fundamental human experience.

Prereq: Honors standing, and 1110.01 (110.01) or equiv. Not open to students with credit for 2220 (220) or 220H. GE lit course and diversity global studies course.

2260 Introduction to Poetry**U 3**

Designed to help students understand and appreciate poetry through an intensive study of a representative group of poems.

Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 2260H (260H) or 260. GE lit course.

2260H Introduction to Poetry**U 3**

Designed to help students understand and appreciate poetry through an intensive study of a representative group of poems.

Prereq: Honors standing, and 1110.01 (110.01) or equiv. Not open to students with credit for 2260 (260) or 260H. GE lit course.

2261 Introduction to Fiction**U 3**

Examination of the elements of fiction -- plot, character, setting, narrative, perspective, theme, etc. -- and their various interrelations; comparisons with nonfictional narrative may be included. Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 2261H (261H) or 261. GE lit course.

2261H Introduction to Fiction**U 3**

Examination of the elements of fiction -- plot, character, setting, narrative, perspective, theme, etc. -- and their various interrelations; comparisons with nonfictional narrative may be included. Prereq: Honors standing, and 1110.01 (110.01) or equiv. Not open to students with credit for 2261 (261) or 261H. GE lit course.

2262 Introduction to Drama**U 3**

A critical analysis of selected dramatic masterpieces from Greek antiquity to the present, designed to clarify the nature and major achievements of Western dramatic art.

Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 2262H (262H) or 262. GE lit course.

2263 Introduction to Film**U 3**

Introduction to methods of reading film texts by analyzing cinema as technique, as system, and as cultural product.

Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 263. GE VPA course.

2264 Introduction to Popular Culture Studies**U 3**

Introduction to the analysis of popular culture texts.

Prereq: 1110.01 (110.01). Not open to students with credit for 264 or CompStd 2264 (264). GE cultures and ideas course. Cross-listed in CompStd.

2265 Introductory Fiction Writing**U 3**

An introduction to the fundamentals of technique, craft, and composition; practice in the writing of fiction; and analysis and discussion of student work as well as published stories by masters of the genre.

Prereq: 1110. Repeatable to a maximum of 6 cr hrs.

2266 Introductory Poetry Writing**U 3**

An introduction to the fundamentals of technique, craft, composition, and prosody; practice in the writing of poetry; and analysis and discussion of student work as well as published poems by established poets.

Prereq: 1110. Repeatable to a maximum of 6 cr hrs.

2267 Introduction to Creative Writing**U 3**

An introduction to the writing of fiction, poetry, and creative nonfiction. Analysis and discussion of student work, with reference to the general methods and scope of all three genres.

Prereq: 1110.01 or equiv.

2268 Introductory Creative Nonfiction Writing**U 3**

An introduction to the fundamentals of technique, craft, and composition; practice in the writing of creative nonfiction; and analysis and discussion of student work as well as published essays by masters of the many forms of creative nonfiction.

Prereq: 1110. Repeatable to a maximum of 6 cr hrs.

2269 Digital Media Composing**U 3**

A composition course in which students analyze and compose digital media texts while studying complex forms and practices of textual production.

Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 269. GE VPA course.

2270 Introduction to Folklore**U 3**

Folklore theory and methods explored through engagement with primary sources: folktale, legend, jokes, folksong, festival, belief, art. Folklore Minor course.

Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 2270H, 270, CompStd 2350, or 2350H. GE cultures and ideas course. Cross-listed in CompStd 2350.

2270H Introduction to Folklore**U 3**

Folklore theory and methods explored through engagement with primary sources: folktale, legend, jokes, folksong, festival, belief, and art. Folklore Minor course.

Prereq: Honors standing, and 1110.01 (110.01), or equiv. Not open to students with credit for 2270 (270), CompStd 2350, or 2350H. GE cultures and ideas course. Cross-listed in CompStd 2350H.

2275 Thematic Approaches to Literature**U 3**

An introduction to literature through the examination of a major theme as treated in different genres and periods; topic varies by semester.

Prereq: 1110.01 (110.01) or equiv. Not open to students with 10 qtr cr hrs for 275. Repeatable to a maximum of 6 cr hrs. GE lit course.

2276 Arts of Persuasion**U 3**

Introduces students to the study and practice of rhetoric and how arguments are shaped by technology, media, and cultural contexts.

Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 276. GE cultures and ideas course.

2277 Introduction to Disability Studies**U 3**

Foundational concepts and issues in disability studies; introduction to the sociopolitical models of disability.

Prereq: 1110.01 or equiv. GE cultures and ideas course.

2280 The English Bible**U 3**

The Bible in English translation, with special attention to its literary qualities, conceptual content, and development within history.

Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 2280H (280H) or 280. GE lit course.

2280H The English Bible**U 3**

The Bible in English translation, with special attention to its literary qualities, conceptual content, and development within history.

Prereq: Honors standing, and 1110.01 (110.01) or equiv. Not open to students with credit for 2280 (280) or 280H. GE lit course.

178 English

2281 Introduction to African-American Literature

U 3

A study of representative literary works by African-American writers from 1760 to the present. Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 281 or AfAmAST 2281 (281). GE lit and diversity soc div in the US course. Cross-listed in AfAmAST.

2282 Introduction to Queer Studies

U 3

Introduces and problematizes foundational concepts of the interdisciplinary field of queer studies, highlighting the intersections of sexuality with race, class, and nationality. Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 282 or WGSSt 2282 (282). GE cultures and ideas and diversity soc div in the US course. Cross-listed in WGSSt.

2290 Colonial and U.S. Literature to 1865

U 3

Introductory study of significant works of U.S. literature from its Colonial origins to 1865. Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 290. GE lit course.

2291 U.S. Literature: 1865 to Present

U 3

Introductory study of significant works of U.S. literature from 1865 to the present. Prereq: English 1110.01 (110.01), or equiv. Not open to student with credit for 291. GE lit course.

2298 Introduction to the Study of Literature

U 3

Introduction to literary studies in all literary fields and in all genres of creative writing. Focus on a range of media, genres, and modes including literature from a range of historical periods as well as national literatures. Intensive writing instruction and substantial written work. Prereq: 1110.

2367.01 Language, Identity, and Culture in the U.S. Experience

U 3

Extends & refines expository writing & analytical reading skills, emphasizing recognition of intertextuality & reflection on compositional strategies on topics pertaining to education & pop culture in America. Only one 2367 (367) decimal subdivision may be taken for credit. Prereq: 1110.01 (110.01), and Soph standing; or EM credit for 1110.01 (110.01) or equiv; or a declared major in English. Not open to students with credit for 2367.01H (367.01H), 210, 267, 267H, 301, 303, or equiv. GE writing and comm: level 2 and diversity soc div in the US course.

2367.01E Language, Identity, and Culture in the U.S. Experience

U 3

Extends & refines expository writing & analytical reading skills emphasizing recognition of intertextuality & reflection on compositional strategies on topics pertaining to education & pop culture in America. Only one 2367 (367) decimal subdivision may be taken for credit. Prereq: Honors standing; and 1110.01 (110.01), and Soph standing; or EM credit for 1110.01 (110.01) or equiv; or a declared major in English; or permission of instructor. Not open to students with credit for 2367.01 (367.01), 210, 267, 267H, 301, 303, 367.01, or equiv. GE writing and comm: level 2 and diversity soc div in the US course.

2367.01H Language, Identity, and Culture in the U.S. Experience

U 3

Extends & refines expository writing & analytical reading skills emphasizing recognition of intertextuality & reflection on compositional strategies on topics pertaining to education & pop culture in America. Only one 2367 (367) decimal subdivision may be taken for credit. Prereq: Honors standing; and 1110.01 (110.01), and Soph standing; or EM credit for 1110.01 (110.01) or equiv; or a declared major in English; or permission of instructor. Not open to students with credit for 2367.01 (367.01), 210, 267, 267H, 301, 303, or equiv. GE writing and comm: level 2 and diversity soc div in the US course.

2367.01S Language, Identity, and Culture in the U.S. Experience

U 3

Extends & refines expository writing & analytical reading skills emphasizing recognition of intertextuality & reflection on compositional strategies on topics pertaining to education & pop culture in America. Only one 2367 (367) decimal subdivision may be taken for credit. Prereq: 1110.01 (110.01), and Soph standing; or EM credit for 1110.01 (110.01) or equiv; or a declared major in English. Not open to students with credit for 2367.01 (367.01), 210, 267, 267H, 301, 303, or equiv. GE writing and comm: level 2 and diversity soc div in the US course.

2367.02 Literature in the U.S. Experience

U 3

Discussion & practice of the conventions, practices, & expectations of scholarly reading of literature & expository writing on issues relating to diversity within the U.S. experience. Only one 2367 (367) decimal subdivision may be taken for credit. Prereq: 1110.01 (110.01) or equiv, and Soph standing; or EM credit for 1110.01 (110.01) or equiv; or a declared major in English. Not open to students with credit for 2367.01 (367.01), 210, 267, 267H, 301, 303, or equiv. GE writing and comm: level 2 and lit (BS only) and diversity soc div in the US course.

2367.02H Literature in the U.S. Experience

U 3

Discussion & practice of the conventions, practices, & expectations of scholarly reading of literature & expository writing on issues relating to diversity within the U.S. experience. Only one 2367 (367) decimal subdivision may be taken for credit. Prereq: Honors standing; and 1110.01 (110.01) or equiv, and Soph standing; or EM credit for 1110.01 (110.01) or equiv; or a declared major in English; or permission of instructor. Not open to students with credit for 2367.01 (367.01), 210, 267, 267H, 301, 303, or equiv. GE writing and comm: level 2 and lit (BS only) and diversity soc div in the US course.

2367.03 Documentary in the U.S. Experience

U 3

An intermediate course that extends and refines skills in critical reading and expository writing through analysis of written texts, video, and documentaries. Only one 2367 (367) decimal subdivision may be taken for credit. Prereq: 1110.01 (110.01) or equiv, and Soph standing; or EM credit for 1110.01 (110.01) or equiv; or a declared major in English. Not open to students with credit for 2367.01 (367.01), 210, 267, 267H, 301, 303, or equiv. GE writing and comm course: level 2.

2367.03H Documentary in the U.S. Experience

U 3

An intermediate course that extends and refines skills in critical reading and expository writing through analysis of written texts, video, and documentaries. Only one 2367 (367) decimal subdivision may be taken for credit. Prereq: Honors standing; and 1110.01 (110.01) or equiv, and Soph standing; or EM credit for 1110.01 (110.01) or equiv; or a declared major in English; or permission of instructor. Not open to students with credit for 2367.01 (367.01), 210, 267, 267H, 301, 303, or equiv. GE writing and comm course: level 2.

2367.04 Technology and Science in the U.S. Experience

U 3

Explores how technological changes impact our culture & relationships; students build & expand skills in rhetorical analysis & composition through experimentation with new forms of communicating. One 2367 (367) subdivision may be taken for credit.

Prereq: 1110.01 (110.01) or equiv, and Soph standing; or EM credit for 1110.01 (110.01) or equiv; or a declared major in English. Not open to students with credit for 2367.01 (367.01), 210, 267, 267H, 301, 303, 367.04H, or equiv. GE writing and comm course: level 2.

2367.05 The U.S. Folk Experience

U 3

Concepts of American folklore & ethnography; folk groups, tradition, & fieldwork methodology; how these contribute to the development of critical reading, writing, & thinking skills. Only one 2367 (367) decimal subdivision may be taken for credit.

Prereq: 1110.01 (110.01) or equiv, and Soph standing; or EM credit for 1110.01 (110.01) or equiv; or a declared major in English. Not open to students with credit for 2367.01 (367.01), 210, 267, 267H, 301, 303, or equiv. GE writing and comm: level 2 and diversity soc div in the US course.

2367.05H The U.S. Folk Experience

U 3

Concepts of American folklore & ethnography; folk groups, tradition, & fieldwork methodology; how these contribute to the development of critical reading, writing, & thinking skills. Only one 2367 (367) decimal subdivision may be taken for credit.

Prereq: Honors standing; and 1110.01 (110.01) or equiv, and Soph standing; or EM credit for 1110.01 (110.01) or equiv; or a declared major in English; or permission of instructor. Not open to students with credit for 2367.01 (367.01), 210, 267, 267H, 301, 303, or equiv. GE writing and comm: level 2 and diversity soc div in the US course.

2367.06 Composing Disability in the U.S.

U 3

Extends & refines expository writing & analytical reading skills, emphasizing recognition of intertextuality & reflection on compositional strategies on topics pertaining to education & pop culture in America. Only one decimal subdivision of English 2367 may be taken for credit. Prereq: English 1110; and Soph standing, or a declared major in English. GE writing and comm: level 2 and diversity soc div in the US course.

2463 Introduction to Video Games Analysis

U 3

An introduction to humanities-based methods of analyzing and interpreting video games in terms of form, genre, style, and theory. No background in video game play is necessary. All students will have regular opportunities for hands-on experience with different game types and genres in both the computer-based classroom and the English Department Video Game Lab. Prereq: English 1110. GE VPA course.

3150 Career Preparation for English and Related Majors

U 3

This general elective course helps English majors and students from other Humanities disciplines to explore and prepare for careers after graduation. Students will analyze texts to gain a practical and theoretical understanding of the world of work. They will learn to identify their own strengths and preferences to guide their job activity and career choices. Prereq or concr: 2367, and Soph standing in a Humanities major; or permission of instructor.

3271 Structure of the English Language

U 3

Students learn basic characteristics of English linguistics focusing on the basic building blocks of language; the sounds of English and how they are put together, word formation processes, and rules for combining words into utterances/sentences. Students investigate and explore linguistic variation, accents of American English, and the implications of language evaluation in educational settings.

Prereq: 1110.01 (110.01). Not open to students with credit for 4570 (570), 6760 (760), 271, 669, 671, 2271, or Linguist 601. GE cultures and ideas course.

3273 Modernist Thought & Culture, 1880-1945

U 3

This is a team-taught course that surveys modern Western cultural history and its revolutionary developments in physics, genetics, philosophy, psychiatry, visual art, architecture, music, dance, and literature. The team-teaching format ensures that students will have the opportunity to approach modernist ideas and forms of expression from more than one disciplinary perspective.

Prereq: English 1110 and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3273. Cross-listed in History.

3304 Business and Professional Writing

U 3

The study of principles and practices of business and professional writing. Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 304.

3305 Technical Writing

U 3

Study of principles and practices of technical writing. Emphasis on the style, organization, and conventions of technical and research reports, proposals, memoranda, professional correspondence, etc.

Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 305.

3331 Thinking Theoretically	U	3	4150 Cultures of Professional Writing	U	3			
Study of fundamental texts and practices informing contemporary understandings of theory in the humanities and social sciences.								
Prereq: 1110 or equiv. Not open to students with credit for ArtsSci 3331 (331).			Examine writing in various workplaces. Analyze writing discourse that shapes professional organizations. Explore ongoing technological and cultural shifts required of workplace writers and the role of digital media.					
Prereq: 1110 and any 2367. Not open to students with credit for HumCol 450.01, 450.02, 450.03, or CSTW 4150.								
3361 Narrative and Medicine	U	3	4189 Professional Writing Minor: Capstone Internship	U	3			
Study of fictional and nonfictional narratives offering diverse perspectives on such medical issues as illness, aging, treatment, health and healing, and doctor-patient relationships.								
Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 361. GE lit course.			Students work onsite in an organization doing writing-related work and meet weekly to discuss related topics.					
Prereq: 1110.01 (110.01) or equiv. Repeatable to a maximum of 6 cr hrs. GE cultures and ideas course.								
3364 Special Topics in Popular Culture	U	3	4194 Group Studies	U	1 - 3			
Focused study in reading popular culture texts, organized around a single theme, period, or medium.								
Prereq: 1110.01 (110.01) or equiv. Repeatable to a maximum of 6 cr hrs. GE cultures and ideas course.			Group Studies.					
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions.								
3372 Science Fiction and/or Fantasy	U	3	4400 Literary Locations	U	3			
Introduction to the tradition and practice of speculative writing. Provides students the opportunity to examine and compare works of science fiction and/or fantasy.								
Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 372. GE lit course.			Study of sites of literary importance, and texts connected with them in the British Isles, Ireland, and elsewhere. Concludes with 10-day visit to location. Taught in conjunction with English 5797.					
Prereq: Permission of instructor. Concur: 5797. Not open to students with 10 qtr cr hrs for 595. Repeatable to a maximum of 6 cr hrs.								
3378 Special Topics in Film and Literature	U	3	4410 Healthcare Experiences: Observing, Reading, Writing	U	3			
Focuses on the relationship between film and literature; topics may include adaptation, cross-media themes and modes, influence of cinema on literature and vice versa.								
Prereq: 1110. Not open to students with 10 qtr cr hrs for 378. Repeatable to a maximum of 6 cr hrs. GE cultures and ideas course.			An elective for the Medical Humanities Minor, this course combines practical experience in a health care setting via volunteer work or shadowing with formal study of health, illness, and treatment in contemporary culture. It brings academic and practical learning into productive dialogue to illuminate relations between "theory" and "practice" in health care settings.					
Prereq: 1110. Not open to students with credit for 2279.			Prereq: Completion of at least 9 credit hours toward the Medical Humanities Minor or permission of instructor.					
3379 Methods for the Study of Writing, Rhetoric and Literacy	U	3	4420 Capstone Course for Integrated Major in Mathematics and English	U	3			
Introduction to the interrelated fields of Writing, Rhetoric, and Literacy, familiarizing students with key concepts that underlie work in these interrelated fields and to the scholarly methods of WRL. Together, this discipline studies the ways people use language and other symbols to convey messages, persuade audiences, and create meaning, and how these practices are learned and taught.								
Prereq: 1110. Not open to students with credit for 2279.			Students combine the Mathematics and English knowledge and skills they have acquired in the integrated major through a capstone experience.					
Prereq: Sr standing in Integrated Major in Mathematics and English (IMME) Program, or permission of instructor. Not open to students with credit for Math 4420. Cross-listed in Math.								
3405 Special Topics in Professional Communication	U	3	4450 Literary London	U	3			
Study of principles and practices in technical communication, technical editing, managerial communication, international business communication, visual rhetoric, writing for the web, and scientific writing.								
Prereq: A 2367 (367) second writing course. Not open to students with 10 qtr cr hrs for 405. Repeatable to a maximum of 6 cr hrs.			A month-long Education Abroad course focusing on past and present London as the center of British literature and culture. The course is taught by Ohio State faculty while students are resident in London. Offered in May term. 3 credit hours.					
Prereq: Permission of instructor.			Prereq: Permission of instructor.					
3465 Special topics in Intermediate Fiction Writing	U	3	4513 Introduction to Medieval Literature	U	3			
For students who have experience with the basic elements of writing fiction. Special topics focus on particular aspects of the genre; advanced techniques are explored.								
Prereq: Grade of C or above in 2265. Repeatable to a maximum of 6 cr hrs.			The study of masterpieces from the Middle Ages, chosen for their values in interpreting medieval culture as well as for their independent literary worth.					
Prereq: 6 cr hrs in English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs of 367 or 6 sem cr hrs of 2367 in any subject are acceptable towards the 6 cr hrs. Not open to students with credit for 513.								
3466 Special Topics in Intermediate Poetry Writing	U	3	4514 Middle English Literature	U	3			
For students who have experience with the basic elements of writing poetry. Special topics focus on particular aspects of the genre; advanced techniques are explored.								
Prereq: Grade of C or above in 2266. Repeatable to a maximum of 6 cr hrs.			A study of non-Chaucerian classics from late medieval England, such as Sir Gawain and the Green Knight, Piers Plowman, and The Book of Margery Kempe.					
Prereq: 6 cr hrs in English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs of 367 or 6 sem cr hrs of 2367 in any subject are acceptable towards the 6 cr hrs. Not open to students with credit for 514.								
3467S Issues and Methods in Tutoring Writing	U	3	4515 Chaucer	U	3			
Theories and practices in tutoring and writing; explores writing-learning connections and prepares students to work as writing consultants/tutors for individuals and small writing groups.								
Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 467 or ArtsSci 3467S (HumCol 467). Cross-listed in ArtsSci.			A close study of Troilus and Criseyde and The Canterbury Tales as introduction to the artist and his period.					
Prereq: Permission of instructor.								
3468 Special Topics in Intermediate Creative Nonfiction Writing	U	3	4520.01 Shakespeare	U	3			
For students who have experience with the basic elements of writing creative nonfiction. Special topics focus on particular aspects of the genre; advanced techniques are explored.								
Prereq: Grade of C or above in 2268. Repeatable to a maximum of 6 cr hrs.			Critical examination of the works, life, theater, and contexts of Shakespeare.					
Prereq: 6 cr hrs in English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs of 367 or 6 sem cr hrs of 2367 in any subject are acceptable towards the 6 cr hrs. Not open to students with credit for 520 or 520.01.								
3597.03 Environmental Citizenship	U	3	4520.02 Special Topics in Shakespeare	U	3			
Provides tools for environmental citizenship by teaching interdisciplinary perspectives on biophysical/sociocultural forces that shape environments. Addresses general processes through local case studies.								
Prereq: Not open to students with credit for 597.03 or Geog 3597.03 (597.03). GE cross-disciplinary seminar course. Cross-listed in Geog.			Focused study of the works of Shakespeare in relation to a topic or critical problem.					
Prereq: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 15 qtr cr hrs for English 520.02. Repeatable to a maximum of 9 cr hrs.								
3662 An Introduction to Literary Publishing	U	3	4521 Renaissance Drama	U	3			
An introduction to the theory and practice of editing and publishing literature.								
Prereq: 2265, 2266, 2267, or 2268. Not open to students with credit for 5662.01 or 662.			Studies in English drama and theater from the early sixteenth century to 1660.					
Prereq: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 621 or with 15 qtr cr hrs of 521. Repeatable to a maximum of 9 cr hrs.								

180 English

4522 Renaissance Poetry	U	3	4551E Special Topics in 19th-Century U.S. Literature	U	3
Studies in English poetry from the early sixteenth century to 1660. Prereq: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 621 or with 15 qtr cr hrs of 522. Repeatable to a maximum of 9 cr hrs.			Honors embedded experience. Focuses on themes and problems in literature and culture of the 19th-century U.S. Prereq: Honors standing, and 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 551. Repeatable to a maximum of 6 cr hrs.		
4523 Special Topics in Renaissance Literature and Culture	U	3	4552 Special Topics in American Poetry Through 1915	U	3
Study of the topics, themes, and problems in the literature and culture of sixteenth and seventeenth-century England. Prereq: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 621 or with 15 qtr cr hrs of 523. Repeatable to a maximum of 9 cr hrs.			This course focuses on themes and problems in the history of American poetry. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 552. Repeatable to a maximum of 6 cr hrs.		
4531 Restoration and 18th-Century Literature	U	3	4553 20th-Century U.S. Fiction	U	3
A selective survey of drama, poetry, novels, or other contemporary genres, such as the moral essay or autobiography. Prereq: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 531.			A study of American fiction after 1914, with emphasis on such major figures as Anderson, Fitzgerald, Hemingway, and Faulkner. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 553.		
4533 The Early British Novel: Origins to 1830	U	3	4554 English Studies and Global Human Rights	U	3
Features the variety of novel forms emerging in 1660-1830, as well as relevant historical and contemporary theories of the novel, marketplace, reading, or interpretation. Prereq: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 533.			Covers key human rights concepts and the role that humanities-based methods of analysis can play in the study of human rights. Examines how human rights are described in legal texts, cultural narratives, public discourses, and artistic representations. Also considers conflicting and contested representations, how they work, and how they are used in particular contexts. Prereq: 2367. GE diversity global studies.		
4535 Special Topics in Restoration and Eighteenth Century British Literature and Culture	U	3	4555 Rhetoric and Legal Argumentation	U	3
Focused study of a major theme and/or critical problem arising from literature Restoration and/or eighteenth century Britain: race and enlightenment, crime and criminals, sex and the city, the culture of sensibility, transatlantic literary culture. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 15 qtr cr hrs for 535. Repeatable to a maximum of 9 cr hrs.			Examines legal argumentation as a specialized type of rhetorical discourse; considers the relationship between rhetoric and legal discourse from historical, theoretical, and practical perspectives; covers key concepts in rhetorical theory and explores their relevance for analyzing and producing legal arguments; students apply theory in analysis and production of spoken and written legal arguments. Prereq: Any version of 2367.		
4540 Nineteenth-Century British Poetry	U	3	4559 Introduction to Narrative and Narrative Theory	U	3
Studies the origins of modern poetry in the years following the French Revolution in 1789 and its development throughout the nineteenth century. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 540.			Study of narrative in its different manifestations, e.g., novel, autobiography, film, legal testimony, and of theories of its form and significance. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 559.		
4542 The Nineteenth-Century British Novel	U	3	4560 Special Topics in Poetry	U	3
Examines formal and thematic concerns in the novels of the nineteenth century in relation to the historical and cultural issues of the time. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 641 or 542.			Focuses on special topics in the study of poetry. Examples include the dramatic monologue; epic and mock epic; the religious lyric; narrative poetry. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 560. Repeatable to a maximum of 6 cr hrs.		
4543 20th-Century British Fiction	U	3	4561 Studies in Fictional and Nonfictional Narrative	U	3
A study of the development of British fiction after 1900, with emphasis on such major novelists as Conrad, Joyce, Lawrence, and Woolf. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 643 or 543.			Focused study of specific subgenres of fiction, nonfiction, or relations between such subgenres. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 561. Repeatable to a maximum of 6 cr hrs.		
4547 20th-Century Poetry	U	3	4562 Studies in Literature and the Other Arts	U	3
A study of twentieth-century British and American poetry, with emphasis on such major figures as Frost, Yeats, Stevens, Eliot, Williams, Auden, Bishop, and Langston Hughes. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 547.			Studies in English literature in an interdisciplinary context. Period and context will vary. Possible topics: modernism and music, romanticism and painting, Elizabethan literature and iconography. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 596. Repeatable to a maximum of 6 cr hrs.		
4549 Modern Drama	U	3	4563 Contemporary Literature	U	3
An historical and critical examination of the major developments, personalities, and achievements in the drama of Europe and America since the advent of Ibsen. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 549 or 649.			A study of poetry and prose written since approximately 1960. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 563.		
4550 Special Topics in Colonial and Early National Literature of the U.S.	U	3	4564.01 Major Author in Medieval and Renaissance British Literature	U	3
Focuses on themes and problems in literature and culture of colonial and early national U.S. Literature. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 550. Repeatable to a maximum of 6 cr hrs.			Intensive study of one of the major authors of the period. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 564.01.		
4551 Special Topics in 19th-Century U.S. Literature	U	3	4564.02 Major Author in 18th- and 19th-Century British Literature	U	3
Focuses on themes and problems in U.S. literature and culture of the 19th-century. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs of 551. Repeatable to a maximum of 6 cr hrs.			Intensive study of one of the major authors of the period. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 564.02.		

4564.03 Major Author in American Literature to 1900

U 3

Intensive study of one of the major authors of the period.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 564.03.

4564.04 Major Author in 20th-Century Literature in English

U 3

Intensive study of one of the major authors of the period.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 564.04.

4565 Advanced Fiction Writing

U 3

Advanced workshop in the writing of fiction. This is a class for serious students of creative writing. Admission is by portfolio submission to the instructor.

Prereq: 2265 and permission of instructor. Repeatable to a maximum of 9 cr hrs.

4566 Advanced Poetry Writing

U 3

Advanced workshop in the writing of poetry. This is a class for serious students of creative writing. Admission is by portfolio submission to the instructor.

Prereq: 2266 and permission of instructor. Not open to students with 9 sem cr hrs of 4566 and/or 4566E. Repeatable to a maximum of 9 cr hrs.

4566E Advanced Poetry Writing

U 3

Advanced workshop in the writing of poetry. This is a class for serious students of creative writing. Admission is by portfolio submission to the instructor.

Prereq: Honors standing, and 2266, and permission of instructor. Not open to students with 9 sem cr hrs of 4566 and/or 4566E. Repeatable to a maximum of 9 cr hrs.

4567S Rhetoric and Community Service: A Writing Seminar

U 3

Service learning course. Critical examination of organizational rhetorics; production of texts in various media for various purposes and audiences as indicated by host organizations.

Prereq: 1110.01 (110.01) or equiv, and a 2367 (367) second writing course. Not open to students with 10 qtr cr hrs for 567. Repeatable to a maximum of 6 cr hrs. GE service learning course.

4568 Advanced Creative Nonfiction Writing

U 3

Advanced workshop in the writing of creative nonfiction. This is a class for serious students of creative writing. Admission is by portfolio submission to the instructor.

Prereq: 2268 and permission of instructor. Repeatable to a maximum of 9 cr hrs.

4569 Digital Media and English Studies

U 3

Critical examination of the intersections between specific areas or problems in English studies and the emergent technologies used to acquire and create knowledge in the discipline.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 569. Repeatable to a maximum of 6 cr hrs.

4570 Introduction to the History of English

U 3

A study of the historical development of English giving attention to social factors associated with language changes in the phonology, morphology, syntax, lexicon, and discourse structure. Prereq: 3271, 4572, Ling 2000, or 5000; or permission of instructor. Not open to students with credit for 274 or 570.

4571 Studies in the English Language

U 3

Special topics vary, including American English; the sociology of American dialects; language and style.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 571. Repeatable to a maximum of 6 cr hrs.

4572 Traditional Grammar and Usage

U 3

An examination of terminology and structures traditionally associated with the study of English grammar and usage rules, especially problematic ones, governing edited written American English.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 572.

4573.01 Rhetorical Theory and Criticism

U 3

Examination of persuasive strategies in a representative selection of genres, such as oratory, news articles, editorials, essays, advertisements, fiction, digital media, and film.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 573.01.

4573.01E Rhetorical Theory and Criticism

U 3

Honors embedded experience. Examination of persuasive strategies in a representative selection of genres, such as oratory, news articles, editorials, essays, advertisements, fiction, digital media, and film.

Prereq: Honors standing, and 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level; or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 573.01.

4573.02 Rhetoric and Social Action

U 3

Examination of persuasive strategies in social interaction, such as social movements, political protests, cultural trends, rituals and ceremonies, and everyday practices.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 573.02.

4574 History and Theories of Writing

U 3

Study of the origins, definitions, and development of writing, including historical, cultural, technological, theoretical, and/or ideological issues.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 574.

4575 Special Topics in Literary Forms and Themes

U 3

Focuses on special topics in literary forms and themes. Examples include ironic forms; the Trojan War in English literature; the hero and the anti-hero; pastoralism and romance.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 575. Repeatable to a maximum of 6 cr hrs.

4575E Special Topics in Literary Forms and Themes

U 3

Honors embedded experience. Focuses on special topics in literary forms and themes.

Examples include: ironic forms; the Trojan War in English literature; the hero and the anti-hero; pastoralism and romance.

Prereq: Honors standing, and 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level; or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 575. Repeatable to a maximum of 6 cr hrs.

4576.01 History of Critical Theory I: Plato to Aestheticism

U 3

Study of the history of literary criticism and of special topics in critical theory; study of the developments and basic texts in literary criticism and critical theory from Plato to Oscar Wilde.

Prereq: Ten quarter credits or six semester credit hours for English courses at the 2000 or 3000 level or permission of instructor. Five quarter credits for 367 or 3 semester credits for 2367 in any subject is acceptable towards the 6 credit hours. Not open to students with credit for 576.01.

4576.02 History of Critical Theory II: 1900 to Present

U 3

Study of the history of literary criticism and of special topics in critical theory; study of the developments and basic texts in literary criticism and critical theory from 1900 to the present.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 576.02.

4576.03 History of Critical Theory III: Issues and Movements

U 3

Study of the history of literary criticism and of special topics in critical theory; study of selected issues or movements in critical theory; topics may include feminist theory, postmodernism, narrative theory, mass culture, and queer theory.

Prereq: 6 cr hrs of English courses at the 2000-3000 level, or permission of instructor. A 2367 course in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 576.03.

4577.01 Folklore I: Groups and Communities

U 3

Study of folk groups/communities, folklore genres, issues/methods in folklore studies. How expressive repertoires shape identity, negotiate conflict, and process change in both established groups and new communities. Folklore Minor course.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 577.01. Repeatable to a maximum of 6 cr hrs.

4577.02 Folklore II: Genres, Form, Meaning, and Use

U 3

Study of folk groups/communities, folklore genres, issues/methods in folklore studies. Study of the relationship between cultural forms, community interpretations, and social uses. Folklore Minor course.

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 577.02. Repeatable to a maximum of 6 cr hrs.

4578 Special Topics in Film

U 3

Examination of particular topics, themes, genres, or movements in cinema; topics may include particular directors (Orson Welles), periods (The Sixties), genres (horror).

Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 15 qtr cr hrs for 578 or 9 sem cr hrs for 4578 or 4578H. Repeatable to a maximum of 9 cr hrs.

4578H Special Topics in Film

U 3

Examination of particular topics, themes, genres, or movements in cinema; topics may include particular directors (Orson Welles), periods (The Sixties), genres (horror).

Prereq: Honors program, and 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 15 qtr cr hrs for 578 or 9 sem cr hrs for 4578 or 4578H. Repeatable to a maximum of 9 cr hrs.

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4580 Special Topics in LGBTQ Literatures and Cultures U 3

Focuses on themes and issues in LGBTQ literature and culture.
Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 15 qtr cr hrs for 580 or 9 sem cr hrs for 4580. Repeatable to a maximum of 9 cr hrs.

4581 Special Topics in U.S. Ethnic Literatures U 3

Study of selected issues or forms in U.S. ethnic literatures and cultures. Topic varies.
Examples: Native American autobiography, Asian American poetry; Latino/a novel.
Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 581 or 6 sem cr hrs for 4581. Repeatable to a maximum of 6 cr hrs.

4582 Special Topics in African-American Literature U 3

Focuses on themes in African American Literature. Topic varies. Examples: Neo-slave narratives; the Harlem Renaissance; literature by African-American women.
Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs or 6 sem cr hrs of 4582 (582) or AfAmAst 4582 (582). Repeatable to a maximum of 6 cr hrs. Cross-listed in AfAmAst.

4583 Special Topics in World Literature in English U 3

Study of literatures written in English and produced outside of the U.S. and Britain; topics include colonial/postcolonial writing, regional literature, theoretical and historical approaches, genres.
Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 583. Repeatable to a maximum of 6 cr hrs.

4584 Special Topics in Literacy Studies U 3

Foundational study of the history, theory, and issues of a special topic in literary studies; topics may include race, popular culture, gender, or globalization.
Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 15 qtr cr hrs or 9 sem cr hrs of 4585 (585.01) or CompStd 4564 (585.01). Repeatable to a maximum of 9 cr hrs. Cross-listed in CompStd 4564.

4586 Studies in American Indian Literature and Culture U 3

Focused study of a topic in American Indian literary and cultural studies.
Prereq: 1110 (110) or equiv. Not open to students with 10 qtr cr hrs of 586. Repeatable to a maximum of 6 cr hrs.

4587 Studies in Asian American Literature and Culture U 3

Focuses on problems and themes in Asian American literature and culture from the late nineteenth century to the present. Topic varies. Examples: Asian American Literature and Popular Culture; Empire and Sexuality in Asian American Literature.
Prereq: 1110 (110) or equiv. Not open to students with 10 qtr cr hrs or 6 sem cr hrs for English 4587 (587) or CompStd 4803 (483). Repeatable to a maximum of 6 cr hrs. Cross-listed in CompStd 4803.

4588 Studies in Latino/a Literature and Culture U 3

Focused study of a topic in Latino/a literary and cultural studies. Novels, short stories, plays, poetry, graphic novels, and films by and about US Latinos in their specific social and historical contexts.
Prereq: 1110 (110) or equiv. Not open to students with 10 qtr cr hrs or 6 sem cr hrs of 4588 (588) or CompStd 4804 (544). Repeatable to a maximum of 6 cr hrs. Cross-listed in CompStd 4804.

4589 Studying the Margins: Language, Power, and Culture U 3

English 4589 will provide students a chance to hear the voices and study the cultural expressions of those groups that have been systematically underrepresented. Students will study the marginalization and oppression of particular groups in the context of historical, ideological and political forces, paying due attention to power relations within the nation-state.
Prereq: 6 cr hrs or 10 qtr hrs of English at the 2000-3000 level. Additionally, 3 cr hrs of 2367 or 5 qtr hrs of 367 in any subject is acceptable toward the total hours; or permission of instructor.

4590.01H The Middle Ages U 3

Intensive study of the middle ages.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.01H.

4590.02H The Renaissance U 3

Intensive study of the Renaissance.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.02H.

4590.03H The Long Eighteenth Century U 3

An intensive study of major British authors and works 1660-1820, their role in literary history, and the theory/criticism that illuminates them.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.03H.

4590.04H Romanticism U 3

Intensive study of Romanticism.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.04H.

4590.05H The Later 19th Century U 3

Intensive study of the later 19th century.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.05H.

4590.06H The Modern Period U 3

Intensive study of The Modern Period.
Prereq: Honors standing, or permission of the instructor. Not open to students with credit for 590.06H.

4590.07H Literature in English after 1945 U 3

Intensive study of literature in English after 1945.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.07H.

4590.08H U.S. and Colonial Literature U 3

Intensive study of a topic in colonial and U.S. literature.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.08H.

4591.01H Special Topics in the Study of Creative Writing U 3

A seminar in literary forms and themes, with a significant creative writing component.
Prereq: Honors standing, and 2265 (265) or 2266 (266) or 2268 (268); or permission of instructor. Not open to students with 10 qtr cr hrs for 591.01H. Repeatable to a maximum of 6 cr hrs.

4591.02H Special Topics in the Study of Rhetoric U 3

Study of rhetorical theories and practices through examination of social communities, texts, movements, and periods both past and present.
Prereq: Honors standing, and 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. Not open to students with 10 qtr cr hrs for 591.02H. Repeatable to a maximum of 6 cr hrs.

4592 Special Topics in Women in Literature and Culture U 3

Using feminist perspectives, students will learn to analyze literature and other cultural works (film, television, digital media) written by or about women. Time period and topic vary.
Prereq: Honors standing, and 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 592. Repeatable to a maximum of 6 cr hrs.

4595 Literature and Law U 3

Exploration of some fundamental questions underlying the cultural representation of legal order, particularly the nature of legal authority and of individual resistance to it.
Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 593.

4597.01 The Disability Experience in the Contemporary World U 3

Global, national, and local issues of disability in the contemporary world; interdisciplinary approach combines historical, literary, philosophical, scientific, and service-oriented analysis of experience of disability.
Prereq: 1110.01 (110.01) or equiv, and Jr or Sr standing. Not open to students with credit for 597.01. GE cross-disciplinary seminar course.

4597.02 American Regional Cultures in Transition U 3

Explores American regional cultures to consider the relationship between tradition and change, how to compare cultures, and how politics and economics shape conceptions of culture.
Folklore Minor course.
Prereq: 1110.01 (110.01) or equiv, and Jr or Sr standing. Not open to students with credit for 597.02. GE cross-disciplinary seminar course.

4597.04H Interdisciplinary Approaches to Narrative in the Contemporary World U 3

Interdisciplinary study of narrative's role in contemporary culture.
Prereq: Honors standing, and 1110.01 (110.01) or equiv, and Jr or Sr standing; or permission of instructor. Not open to students with credit for 597.04H. GE cross-disciplinary seminar course.

4800 Story Development for Film and Television U 3

In this course, students will harness their pre-existing critical thinking skills and historical knowledge to develop a personal statement-of-purpose that enables them to generate and refine their own original film and television concepts for subsequent production projects.
Prereq: Permission of instructor. Not available for students with credit for FilmStd 4194 (Au14) or FilmStd 4800. Cross-listed in FilmStd.

4998 Undergraduate Research in English U 1 - 9

Undergraduate research in variable topics; independent study.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4998H Honors Undergraduate Research in English	U 1 - 9
Undergraduate research in variable topics; independent study.	
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.	
4999 Undergraduate Research: Thesis	U 1 - 18
A program of reading arranged for each student, with individual conferences, reports, paper and/or thesis.	
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.	
4999H Honors Research	U 1 - 18
A program of reading arranged for each student, with individual conferences, reports, and honors thesis. Open only to candidates for distinction in English.	
Prereq: Honors standing, and Sr standing, and permission of the professor under whose supervision the work is to be completed. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.	
5189S Comparative Studies Field School	U G 3
Introduction to ethnographic field methods (participant-observation, writing field notes, photography, interviewing), archiving, and public humanities. An introduction to fieldwork is followed by a field experience (where students will reside together in local housing) followed by accessioning, exhibition planning and reflection. Maximum credit hours include those for CompStd 5189S.	
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in CompStd.	
5191 Internship in English Studies	U G 1 - 3
Students may receive credit for internships across a wide variety of career fields including, but not limited to, the arts and nonprofit administration; creative, business, and technical writing; communications, marketing and public relations; consulting; education; human resources; law and politics; media production; publishing; sales; social services and counseling; and technology services.	
Prereq: Permission of instructor. Not open to students with 15 qtr cr hrs for 689. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.	
5193 Individual Studies	U G 1 - 3
Students may register for individual directed study under this number for work not normally offered in courses.	
Prereq: Permission of instructor and department undergraduate or graduate committee. Not open to students with 10 qtr cr hrs for 693. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.	
5194 Group Studies	U G 1 - 3
Group studies.	
Prereq: Permission of instructor. Not open to students with 15 qtr cr hrs for 694 or 9 sem cr hrs for 5194. Repeatable to a maximum of 9 cr hrs or 9 completions.	
5662.02 Literary Publishing	U G 3
Theory and practice of editing and publishing literature.	
Prereq: 2265 (265), 2266 (266), or 2268 (268), and permission of instructor. Not open to students with credit for 5662 (662). This course is graded S/U.	
5664 Studies in Graphic Narrative	U G 3
Introduction to advanced study in graphic narrative and theory; thematic topics include the contemporary graphic novel, graphic autobiography, the history of comics, and comics journalism.	
Prereq: 9 cr hrs at the 3000, 4000, or 5000-level in English, or permission of instructor. Repeatable to a maximum of 9 cr hrs.	
5710.01 Introduction to Old English Language and Literature	U G 3
Introduction to Old English language, followed by selected readings in Anglo-Saxon prose and verse texts.	
Prereq: 9 cr hrs at the 3000, 4000, or 5000 level, or equiv work in allied departments, or permission of instructor. Not open to students with credit for 5710.01 (710) or 5710.02.	
5710.02 Introduction to Old English Language and Literature	U G 3
Introduction to Old English language, followed by selected readings in Anglo-Saxon prose and verse texts.	
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 5710.01 (710) or 5710.02. This course is graded S/U.	
5720.01 Graduate Studies in Shakespeare	U G 3
Study of topics, themes, and problems in advanced studies of Shakespeare.	
Prereq: 10 qtr cr hrs of 300, 400, or 500 level, or 9 sem cr hrs of 3000, 4000, or 5000 level, or Grad standing, or permission of instructor. Not open to students with 5 qtr cr hrs for 720 or 6 sem cr hrs for 5720.01 or 5720.02. Repeatable to a maximum of 6 cr hrs.	
5720.02 Graduate Studies in Shakespeare	U G 3
Study of topics, themes, and problems in advanced studies of Shakespeare.	
Prereq: 10 qtr cr hrs at the 300, 400, or 500 level, or 9 sem cr hrs at the 3000, 4000, or 5000 level, or Grad standing, or permission of instructor. Not open to students with 5 qtr cr hrs for 720 or 6 sem cr hrs for 5720.01 or 5720.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.	

5721.01 Graduate Studies in Renaissance Drama	U G 3
Study of topics, themes, and problems in advanced studies of English drama from the early sixteenth century to 1660.	
Prereq: 10 qtr cr hrs at 300, 400, or 500 level, or 9 sem cr hrs at 3000, 4000, or 5000 level, or Grad standing, or permission of instructor. Not open to students with more than 5 qtr cr hrs for 720 or 6 sem cr hrs for 5721.01 or 5721.02. Repeatable to a maximum of 6 cr hrs.	
5721.02 Graduate Studies in Renaissance Drama	U G 3
Study of topics, themes, and problems in advanced studies of English drama from the early sixteenth century to 1660.	
Prereq: Grad standing, or permission of instructor. Not open to students with more than 5 qtr cr hrs for 720 or 6 sem cr hrs for 5721.01 or 5721.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.	
5722.01 Graduate Studies in Renaissance Poetry	U G 3
Study of topics, themes, and problems in advanced studies of English poetry from the early sixteenth century to 1660.	
Prereq: 10 qtr cr hrs in English at the 300, 400, or 500 level, or 9 sem cr hrs at the 3000, 4000, or 5000 level, or permission of instructor. Not open to students with 6 sem cr hrs for 5722.01 or 5722.02. Repeatable to a maximum of 6 cr hrs.	
5722.02 Graduate Studies in Renaissance Poetry	U G 3
Study of topics, themes, and problems in advanced studies of English poetry from the early sixteenth century to 1660.	
Prereq: Grad standing, or permission of instructor. Not open to students with 6 cr hrs for 5722.01 or 5722.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.	
5723.01 Graduate Studies in Renaissance Literature and Culture	U G 3
Study of topics, themes, and problems in advanced studies of the literature and culture of sixteenth- and seventeenth-century England.	
Prereq: 10 qtr cr hrs in English at the 300, 400, or 500 level, or 9 sem cr hrs at the 3000, 4000, or 5000 level, or Grad standing, or permission of instructor. Not open to students with 6 qtr cr hrs for 5723.01 or 5723.02. Repeatable to a maximum of 6 cr hrs.	
5723.02 Graduate Studies in Renaissance Literature and Culture	U G 3
Study of topics, themes, and problems in advanced studies of the literature and culture of sixteenth- and seventeenth-century England.	
Prereq: Grad standing, or permission of instructor. Not open to students with 6 qtr cr hrs for 5723.01 or 5723.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.	
5797 Study at a Foreign Institution	U G 1 - 27
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Arranged. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.	
Prereq: Permission of instructor. Not open to students with 6 qtr cr hrs for 697 or 27 sem cr hrs for 5797. Repeatable to a maximum of 27 cr hrs or 27 completions. This course is graded S/U.	
5804 Analyzing Language in Social Media	U G 3
Course gives students experience analyzing language in social media. It covers theoretical issues arising in digital communication and provides hands-on practice at computational data analysis, applicable across fields. Students gain an understanding of the sociolinguistic dynamics of online communication and the technical skills to conduct research on them. Team-taught w/ faculty in Linguistics.	
Prereq: Not open to students with credit for Ling 5804. Cross-listed in Ling.	
5892 Workshop	U G 1 - 3
Workshop	
Prereq: Permission of instructor. Not open to students with 12 cr hrs for 5892 (692). Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.	
5980 Ancient and Modern Narrative: Cognition, Affect, Ethics, Belief	U G 3
This course will juxtapose narratives from an ancient culture with narratives from a modern culture to explore the hypothesis that the power of narrative arises from its capacity to affect the lives of audiences by engaging their cognition, affect, ethics, and beliefs. Team-taught w/ faculty in Comparative Studies.	
Prereq: Not open to students with credit for CompStd 5980. Cross-listed in CompStd.	
6194 Group Studies	G 1 - 3
Group Studies	
Prereq: Grad standing, or permission of instructor. Not open to students with 9 sem cr hrs or 15 qtr cr hrs for 6194 (894). Repeatable to a maximum of 9 cr hrs or 9 completions.	
6410 Introduction to Graduate Study in Medical Humanities and Social Sciences	G 3
Study of medicine from the perspective of the humanities and social sciences; emphasis on how these perspectives complicate an understanding of medicine as pure science.	
Prereq: Grad standing.	
6662 Literary Publishing	G 3
Theory and practice of editing and publishing literature for MFA students in creative writing.	
Prereq: MFA (Creative Writing) standing, or permission of instructor. Not open to students with credit for 662 or 5662.01.	

184 English

6700.01	Introduction to Graduate Study in English	G	3			
	Introduction to bibliography, research methods, critical theory, and the principles of literary criticism for advanced work in English studies. Required of all English doctoral candidates. Prereq: Permission of Director of Graduate Studies. Not open to students with credit for 6787.02, 700, or 800.					
6700.02	Introduction to Graduate Study in English	G	3			
	Introduction to bibliography, research methods, critical theory, and the principles of literary criticism for advanced work in English studies. Required of all English doctoral candidates. Prereq: Permission of Director of Graduate Studies. Not open to students with credit for 6787.01, 700, or 800. This course is graded S/U.					
6713.01	Introduction to Middle English Language	G	3			
	An intensive study of Middle English phonology, morphology, syntax, and dialectology from 1100-1500, with selected readings in the literature. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6713.01 (713) or 6713.02.					
6716.01	Introduction to Graduate Study in the Middle Ages	G	3			
	Introduction to advanced study and current scholarship and criticism in medieval literature, 1300-1500. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6716.01 (716) or 6716.02.					
6716.02	Introduction to Graduate Study in the Middle Ages	G	3			
	Introduction to advanced study and current scholarship and criticism in medieval literature, 1300-1500. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6716.01 (716) or 6716.02. This course is graded S/U.					
6718.01	Introduction to Graduate Study in Chaucer	G	3			
	Introduction to advanced study in Chaucer, with a focus on The Canterbury Tales and Troilus and Criseyde. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6718.01 (718) or 6718.02.					
6718.02	Introduction to Graduate Study in Chaucer	G	3			
	Introduction to advanced study in Chaucer, with a focus on The Canterbury Tales and Troilus and Criseyde. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6718.01 (718) or 6718.02. This course is graded S/U.					
6736.01	Introduction to Graduate Study in the Restoration and 18th Century	G	3			
	Introduction to advanced study and current scholarship and criticism in British literature, 1660-1800. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6736.01 (736) or 6736.02.					
6736.02	Introduction to Graduate Study in the Restoration and 18th Century	G	3			
	Introduction to advanced study and current scholarship and criticism in British literature, 1660-1800. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6736.01 (736) or 6736.02. This course is graded S/U.					
6746.01	Introduction to Graduate Study in British Literature of the Romantic Period	G	3			
	Introduction to advanced study and current scholarship and criticism in British literature of the Romantic period. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6746.01 (746) or 6746.02.					
6746.02	Introduction to Graduate Study in British Literature of the Romantic Period	G	3			
	Introduction to advanced study and current scholarship and criticism in British literature of the Romantic period. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6746.01 (746) or 6746.02. This course is graded S/U.					
6747.01	Introduction to Graduate Study in British Literature of the Victorian Period	G	3			
	Introduction to advanced study and current scholarship and criticism in British Victorian literature. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6747.01 (747) or 6747.02.					
6747.02	Introduction to Graduate Study in British Literature of the Victorian Period	G	3			
	Introduction to advanced study and current scholarship and criticism in British Victorian literature. Prereq: Grad standing or permission of instructor. Not open to students with credit for 6747.01 (747) or 6747.02. This course is graded S/U.					
6750.01	Introduction to Graduate Study in Literacy	G	3			
	Introduction to advanced study of the development of reading and writing, the study of literacy; attention to historical, theoretical, ideological, and technological issues and change. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6750.01 (750) or 6750.02.					
6750.02	Introduction to Graduate Study in Literacy	G	3			
	Introduction to advanced study of the development of reading and writing, the study of literacy; attention to historical, theoretical, ideological, and technological issues and change. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6750.01 (750) or 6750.02. This course is graded S/U.					
6751.01	Intro to Graduate Study in Folklore I: The Philology of the Vernacular	G	3			
	Introduction to the canonical folklore genres and the history of folklore as a discipline. Why and how do we examine the vernacular? Folklore GIS course. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6751.11, 770.01, or CompStd 6750.01 (770.01). Cross-listed in CompStd 6750.01.					
6751.02	Intro to Graduate Study in Folklore II: Fieldwork and the Ethnography of Communication	G	3			
	Intro to fieldwork & ethnology in humanities: interviewing, participant observation, ethics, ethnographic representation. Ethnography of communication as an approach to community-based expressive forms. Folklore GIS course. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 770.02, 770.03, 6751.22, CompStd 770.02, 770.03, or 6750.02. Cross-listed in CompStd 6750.02.					
6751.11	Intro to Graduate Study in Folklore I: The Philology of the Vernacular	G	3			
	Introduction to the canonical folklore genres and the history of folklore as a discipline. Why and how do we examine the vernacular? Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6751.01 (770.01) or CompStd 6750.01 (770.01). This course is graded S/U.					
6751.22	Intro to Graduate Study in Folklore II: Fieldwork and the Ethnography of Communication	G	3			
	Introduction to fieldwork and ethnology in the humanities: interviewing, participant observation, ethics, ethnographic representation. The ethnography of communication as an approach to community-based expressive forms. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 770.02, 770.03, 6751.02, CompStd 770.02, 770.03, or 6750.02. This course is graded S/U.					
6755.01	Introduction to Graduate Study in American Literature, Origins to 1840	G	3			
	Introduction to advanced study and current scholarship and criticism in early American literature. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6755.01 (755) or 6755.02.					
6755.02	Introduction to Graduate Study in American Literature, Origins to 1840	G	3			
	Introduction to advanced study and current scholarship and criticism in early American literature. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6755.01 (755) or 6755.02. This course is graded S/U.					
6756.01	Introduction to Graduate Study in American Literature, 1840-1914	G	3			
	Introduction to advanced study and current scholarship and criticism in American literature, 1840-1914. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6756.01 (756) or 6756.02.					
6756.02	Introduction to Graduate Study in American Literature, 1840-1914	G	3			
	Introduction to advanced study and current scholarship and criticism in American literature, 1840-1914. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6756.01 (756) or 6756.02. This course is graded S/U.					
6757.01	Introduction to Graduate Study in African-American Literature, 1746-1900	G	3			
	A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1746 to 1900. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6757.11, 757.01, or AfAmAST 6757.01 (757.01). Cross-listed in AfAmAST.					
6757.02	Introduction to Graduate Study in African-American Literature, 1900 to Present	G	3			
	A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1900 to the present. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6757.22, 757.02, or AfAmAST 6757.02 (757.02). Cross-listed in AfAmAST.					
6757.11	Introduction to Graduate Study in African-American Literature, 1746-1900	G	3			
	A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1746 to 1900. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6757.01 (757.01) or AfAmAST 6757.01 (757.01). This course is graded S/U.					

6757.22	Introduction to Graduate Study in African-American Literature, 1900 to Present	G	3	6766.02	Introduction to Graduate Study in 20th Century Literature, 1900-1945	G	3
	A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1900 to the present.				Introduction to advanced study and current scholarship and criticism in literature written in English 1900-1945.		
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6757.02 (757.02) or AfAmAST 6757.02 (757.02). This course is graded S/U.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 766 or equivalent. This course is graded S/U.		
6758.01	Introduction to Graduate Study in U.S. Ethnic Literature and Culture	G	3	6767.01	Introduction to Graduate Study in 20th Century Literature, 1945-Present	G	3
	Introduction to graduate study of representative literature and culture of a U.S. ethnic group, such as American-Indian, Jewish-American, Latino/a.				Introduction to advanced study in 20th-century literature written in English since 1945.		
	Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem cr hrs or 10 qtr cr hrs for 6758.01 (758) or 6758.02. Repeatable to a maximum of 6 cr hrs.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6767.02 or 767. This course is graded S/U.		
6758.02	Introduction to Graduate Study in U.S. Ethnic Literature and Culture	G	3	6767.02	Introduction to Graduate Study in 20th Century Literature, 1945-Present	G	3
	Introduction to graduate study of representative literature and culture of a U.S. ethnic group, such as American-Indian, Jewish-American, Latino/a.				Introduction to advanced study in 20th-century literature written in English since 1945.		
	Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs or 6 sem cr hrs for 6758.01 (758) or 6758.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6767.01 or 767. This course is graded S/U.		
6760.01	Introduction to Graduate Study in Postcolonial Literature and Theory	G	3	6768	Graduate Workshop in Creative Nonfiction	G	3
	Introduction to graduate-level study of representative examples of the literary, cultural, and theoretical texts that inform postcolonial studies.				A graduate-level workshop in the writing of creative nonfiction.		
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 760, 6760.01, or 6760.02.				Prereq: MFA standing, or permission of instructor. Not open to students with 20 qtr hrs for 768 or equivalent. Repeatable to a maximum of 12 cr hrs.		
6760.02	Introduction to Graduate Study in Postcolonial Literature and Theory	G	3	6769	Graduate Workshop in Creative Writing (Special Topics)	G	3
	Introduction to graduate-level study of representative examples of the literary, cultural and theoretical texts that inform postcolonial studies.				A special topics course in the writing of fiction, poetry, and/or creative nonfiction.		
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 760, 6760.01, or 6760.02. This course is graded S/U.				Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr hrs for 769 or equivalent. Repeatable to a maximum of 6 cr hrs.		
6761.01	Introduction to Graduate Study in Narrative and Narrative Theory	G	3	6778.01	Introduction to Graduate Study in Film and Film Theory	G	3
	Study of narrative in its different manifestations, e.g., novel, autobiography, film, legal testimony, and of theories of its form and significance.				An advanced survey of the methodologies, contexts, and development of film and film theory.		
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6761.02 or 761.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6778.01 (778) or 6778.02.		
6761.02	Introduction to Graduate Study in Narrative and Narrative Theory	G	3	6778.02	Introduction to Graduate Study in Film and Film Theory	G	3
	Study of narrative in its different manifestations, e.g., novel, autobiography, film, legal testimony, and of theories of its form and significance.				An advanced survey of the methodologies, contexts, and development of film and film theory.		
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6761.01 or 761. This course is graded S/U.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6778.01 (778) or 6778.02. This course is graded S/U.		
6763.01	Graduate Workshop in Poetry	G	3	6779.01	Introduction to Graduate Study in Rhetoric: Classical to Early Renaissance	G	3
	A graduate-level workshop in the writing of poetry.				Provides foundational study in the history and theory of rhetoric from classical Greece to early modern Europe.		
	Prereq: MFA standing, or permission of instructor. Not open to students with 20 qtr hrs for 763 or equivalent. Repeatable to a maximum of 12 cr hrs.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6779.01 (779.01) or 6779.11.		
6763.02	Graduate Workshop in Poetry	G	3	6779.02	Introduction to Graduate Study in Rhetoric: Renaissance to 20th Century	G	3
	A graduate-level workshop in the writing of poetry for MFA students in fiction or creative non-fiction with limited experience as poets.				Provides foundational study in the history and theory of rhetoric from the Renaissance to the present. 6779.01 (779.01) recommended.		
	Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr hrs for 763 or equivalent. Repeatable to a maximum of 12 cr hrs.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6779.02 (779.02) or 6779.22.		
6764	Graduate Workshop in Screenwriting	G	3	6779.11	Introduction to Graduate Study in Rhetoric: Classical to Early Renaissance	G	3
	Students with expertise in fiction- or creative nonfiction-writing or poetry will learn the art and craft of screenwriting and complete their first full-length screenplays.				Provides foundational study in the history and theory of rhetoric from classical Greece to early modern Europe.		
	Prereq: English MFA standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6779.01 (779.01) or 6779.11. This course is graded S/U.		
6765.01	Graduate Workshop in Fiction	G	3	6779.22	Introduction to Graduate Study in Rhetoric: Renaissance to 20th Century	G	3
	A graduate-level workshop in the writing of fiction.				Provides foundational study in the history and theory of rhetoric from the Renaissance to the present. 6779.01 (779.01) recommended.		
	Prereq: MFA standing, or permission of instructor. Not open to students with 20 qtr hrs for 765 or equivalent. Repeatable to a maximum of 12 cr hrs.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6779.02 (779.02) or 6779.22. This course is graded S/U.		
6765.02	Graduate Workshop in Fiction	G	3	6780.01	Current Theory and Practice in the Teaching of Writing	G	3
	A graduate-level workshop in the writing of fiction for MFA students in poetry or creative non-fiction with limited experience as fiction writers.				Modern theories of composition; topics include: invention, style, sentence combining, evaluation, and the composing process.		
	Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr hrs for 765 or equivalent. Repeatable to a maximum of 12 cr hrs.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6780.01 (870) or 6780.22.		
6766.01	Introduction to Graduate Study in 20th Century Literature, 1900-1945	G	3	6780.02	Current Theory and Practice in the Teaching of Writing	G	3
	Introduction to advanced study and current scholarship and criticism in literature written in English 1900-1945.				Modern theories of composition; topics include: invention, style, sentence combining, evaluation, and the composing process.		
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6766.02 or 766.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6780.01 (870) or 6780.02. This course is graded S/U.		
6781	Introduction to the Teaching of First-Year English	G	3	6781	Introduction to the Teaching of First-Year English	G	3
	Introduction to the theory and practice of teaching first-year English. Required of new GTA's in English.				Introduction to the theory and practice of teaching first-year English. Required of new GTA's in English.		
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 781 or 881.01. This course is graded S/U.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 781 or 881.01. This course is graded S/U.		

186 English

6788.01 Studies in the Theory and Practice of Imaginative Writing	G	3	7350.22 Theorizing Folklore II: The Ethnography of Performance	G	3
Instruction in imaginative writing as a method for studying scholarly issues in English, e.g., disability narratives, ethnicity and literature, gender and genre.			Performance as a heightened mode of communication characteristic of vernacular cultural process, studied in the context of ongoing social interaction.		
Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 788, or equiv. Repeatable to a maximum of 6 cr hrs.			Prereq: Grad standing, or permission of instructor. Not open to students with credit for 7350.02 (870) or CompStd 7350.02 (792). This course is graded S/U.		
6788.02 Studies in the Theory and Practice of Imaginative Writing	G	3	7350.33 Theorizing Folklore III: Differentiation, Identification, and the Folk	G	3
Instruction in imaginative writing as a method for studying scholarly issues in English, e.g., disability narratives, ethnicity and literature, gender and genre.			Cultural form as a social tool for both differentiation and integration. "Folklore" and other metacultural concepts in the history of modernity.		
Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 788, or equiv. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			Prereq: Grad standing, or permission of instructor. Not open to students with credit for 7350.03 (870) or CompStd 7350.03 (792). This course is graded S/U.		
6789.01 Introduction to Graduate Study in Digital Media	G	3	7817.01 Seminar in Early Medieval English Literature	G	3
Explores how scholars in English studies use computer technologies and multiple media to make meaning, represent and analyze information, teach, and conduct research.			Topics include: Beowulf and its background; Old English poetry exclusive of Beowulf.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6789.01 (789) or 6789.02.			Prereq: 5710 (710), or equiv. Not open to students with 10 qtr cr hrs for 817 or 6 sem qtr cr hrs for 7817.01 or 7817.02. Repeatable to a maximum of 6 cr hrs.		
6789.02 Introduction to Graduate Study in Digital Media	G	3	7817.02 Seminar in Early Medieval English Literature	G	3
Explores how scholars in English studies use computer technologies and multiple media to make meaning, represent and analyze information, teach, and conduct research.			Topics include: Beowulf and its background; Old English poetry exclusive of Beowulf.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6789.01 (789) or 6789.02. This course is graded S/U.			Prereq: 5710 (710) or equivalent. Not open to students with 6 sem hrs of 7817.01 or 7817.02, or 10 qtr hrs of 817. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
6791.01 Introduction to Graduate Study in Critical Theory: Contemporary Movements	G	3	7818.01 Seminar in Later Medieval Literature	G	3
Introduction to a movement in critical or cultural theory such as feminist, marxist, reader-response, queer, or postcolonial, and its relation to current critical practices.			Topics include: Poetry of the alliterative revival; medieval English drama; fifteenth-century non-dramatic literature.		
Prereq: Grad standing, or permission of instructor. Not open to students with 9 sem cr hrs or 15 qtr cr hrs for 6791.01 (791) or 6791.02. Repeatable to a maximum of 9 cr hrs.			Prereq: Grad standing, or permission of instructor. Not open to students with 12 sem hrs of 7818.01 or 7818.02, or 20 qtr hrs of 818. Repeatable to a maximum of 12 cr hrs.		
6791.02 Introduction to Graduate Study in Critical Theory: Contemporary Movements	G	3	7818.02 Seminar in Later Medieval Literature	G	3
Introduction to a movement in critical or cultural theory such as feminist, marxist, reader-response, queer, or postcolonial, and its relation to current critical practices.			Topics include: Poetry of the alliterative revival; medieval English drama; fifteenth-century non-dramatic literature.		
Prereq: Grad standing, or permission of instructor. Not open to students with 9 sem cr hrs or 15 qtr cr hrs for 6791.01 (791) or 6791.02. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 818 or 12 sem cr hrs for 7818.01 or 7818.02. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.		
6795.01 Introduction to Research Methods in Rhetoric and Composition	G	3	7820.01 Seminar in Shakespeare	G	3
Introduction to the research methods most widely used in rhetoric, composition, and literacy studies.			An intensive consideration of selected problems in the scholarly study of Shakespeare.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 795 or equiv.			Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7820.01 or 7820.02, or 10 qtr hrs of 820. Repeatable to a maximum of 6 cr hrs.		
6795.02 Introduction to Research Methods in Rhetoric and Composition	G	3	7820.02 Seminar in Shakespeare	G	3
Introduction to the research methods most widely used in rhetoric, composition, and literacy studies.			An intensive consideration of selected problems in the scholarly study of Shakespeare.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 795 or equiv. This course is graded S/U.			Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7820.01 or 7820.02, or 10 qtr hrs of 820. Repeatable to a maximum of 6 cr hrs.		
6998 Graduate Research in English	G	1 - 18	7827.01 Seminar in English Renaissance Literature	G	3
Graduate research. Arranged.			Topics include: Renaissance and early seventeenth-century poetry; Spenser; Renaissance drama; Milton; Renaissance prose.		
Prereq: Permission of Director of Grad Studies. Not open to students with 30 qtr cr hrs for 696 or 18 sem cr hrs for 6998. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.			Prereq: Grad standing, or permission of instructor. Not open to students with 12 sem hrs of 7827.01 or 7827.02, or 20 qtr hrs of 827. Repeatable to a maximum of 12 cr hrs.		
7350.01 Theorizing Folklore I: Tradition and Transmission	G	3	7827.02 Seminar in English Renaissance Literature	G	3
The transmission of cultural forms through time and space across social networks, with special attention to the dynamics of conservation, and innovation, reflexivity, and habit. Folklore GIS course.			Topics include: Renaissance and early seventeenth-century poetry; Spenser; Renaissance drama; Milton; Renaissance prose.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 7350.11, 870, or CompStd 7350.01 (792). Cross-listed in CompStd.			Prereq: Grad standing, or permission of instructor. Not open to students with 12 sem hrs of 7827.01 or 7827.02, or 20 qtr hrs of 827. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		
7350.02 Theorizing Folklore II: The Ethnography of Performance	G	3	7837.01 Studies in 18th Century Genre	G	3
Performance as a heightened mode of communication characteristic of vernacular cultural process, studied in the context of ongoing social interaction. Folklore GIS course.			Introduction to advanced study and current scholarship and criticism of one of the following: eighteenth-century fiction, poetry, drama, or non-fiction.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 7350.22, 870, or CompStd 7350.02 (792). Cross-listed in CompStd.			Prereq: Grad standing, or permission of instructor. Not open to students with credit for 737, 7837.01 or 7837.02.		
7350.03 Theorizing Folklore III: Differentiation, Identification, and the Folk	G	3	7837.02 Studies in 18th Century Genre	G	3
Cultural form as a social tool for both differentiation and integration. "Folklore" and other metacultural concepts in the history of modernity. Folklore GIS course.			Introduction to advanced study and current scholarship and criticism of one of the following: eighteenth-century fiction, poetry, drama, or non-fiction.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 870 or CompStd 7350.03 (792). Cross-listed in CompStd.			Prereq: Grad standing or permission of instructor. Not open to students with credit for 737, 7837.01 or 7837.02. This course is graded S/U.		
7350.11 Theorizing Folklore I: Tradition and Transmission	G	3	7838.01 Seminar in Critical Issues in the Restoration and 18th Century	G	3
The transmission of cultural forms through time and space across social networks, with special attention to the dynamics of conservation, and innovation, reflexivity, and habit.			An intensive consideration of a selected critical problem or a selected intellectual focus in the scholarly study of Restoration and/or eighteenth-century literature and culture.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 7350.01 (870) or CompStd 7350.01 (792). This course is graded S/U.			Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 838 or 12 sem cr hrs for 7838.01 or 7838.02. Repeatable to a maximum of 12 cr hrs.		
7350.22 Theorizing Folklore II: The Ethnography of Performance	G	3	7838.02 Seminar in Critical Issues in the Restoration and 18th Century	G	3
Performance as a heightened mode of communication characteristic of vernacular cultural process, studied in the context of ongoing social interaction. Folklore GIS course.			An intensive consideration of a selected critical problem or a selected intellectual focus in the scholarly study of Restoration and/or eighteenth-century literature and culture.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 7350.02 (870) or CompStd 7350.02 (792). Cross-listed in CompStd.			Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 838 or 12 sem cr hrs for 7838.01 or 7838.02. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		

7840.01 Seminar in English Romantic Literature

G 3

Literary romanticism in relation to contemporary intellectual and political movements; topic varies from year to year.

Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 840 or 9 sem cr hrs for 7840.01 or 7840.02. Repeatable to a maximum of 9 cr hrs.

7840.02 Seminar in English Romantic Literature

G 3

Literary romanticism in relation to contemporary intellectual and political movements; topic varies from year to year.

Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 840 or 9 sem cr hrs for 7840.01 or 7840.02. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7844.01 Seminar in Victorian Literature

G 3

Topics include: Victorian poetry; nineteenth-century non-fictional prose; nineteenth-century novels.

Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 844 or 9 sem cr hrs for 7844.01 or 7844.02. Repeatable to a maximum of 9 cr hrs.

7844.02 Seminar in Victorian Literature

G 3

Topics include: Victorian poetry; nineteenth-century non-fictional prose; nineteenth-century novels.

Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 844 or 9 sem cr hrs for 7844.01. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7850.01 Seminar in U.S. Literatures before 1900

G 3

Topics include: American authors (Poe, Melville); history of genres, forms, and media (poetry, U.S. serial fiction); intensive study of 'periods' (the early Republic, the 1890s).

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 850. Repeatable to a maximum of 12 cr hrs.

7850.02 Seminar in U.S. Literatures before 1900

G 3

Topics include: American authors (Poe, Melville); history of genres, forms, and media (poetry, U.S. serial fiction); intensive study of 'periods' (the early Republic, the 1890s).

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 850. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7851.01 Seminar in Critical Approaches to Black Literatures

G 3

A close reading of major literary critical discourses that have shaped and determined the course of black literary production in Africa, North America, and the Caribbean.

Prereq: A course in AfAmAST literature, or permission of instructor. Not open to students with 6 sem hrs of 7851.01 or 7851.02, 10 qtr hrs of 851, or AfAmAST 7851 (851). Repeatable to a maximum of 6 cr hrs. Cross-listed in AfAmAST 7851.

7851.02 Seminar in Critical Approaches to Black Literatures

G 3

A close reading of major literary critical discourses that have shaped and determined the course of black literary production in Africa, North America, and the Caribbean.

Prereq: A course in AfAmAST literature, or permission of instructor. Not open to students with 6 sem hrs of 7851.01 or 7851.02, 10 qtr hrs of 851, or AfAmAST 7851 (851). Repeatable to a maximum of 6 cr hrs. This course is graded S/U. Cross-listed in AfAmAST 7851.

7858.01 Seminar in U.S. Ethnic Literatures and Culture

G 3

Advanced work in U.S. ethnic literatures and cultures through study of a specific issue, theme, or problem of central concern to the field. Topic varies.

Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7858.01 or 7858.02, or 10 qtr hrs of 858. Repeatable to a maximum of 6 cr hrs.

7858.02 Seminar in U.S. Ethnic Literatures and Culture

G 3

Advanced work in U.S. ethnic literatures and cultures through study of a specific issue, theme, or problem of central concern to the field. Topic varies.

Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7858.01 or 7858.02, or 10 qtr hrs of 858. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7860.01 Seminar in 20th Century British and/or American Literature

G 3

Problems, forms, and themes in twentieth-century British and/or American literature; study of particular twentieth-century British and/or American writers.

Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 860, 860.01, 860.02, or 860.03 or 9 sem cr hrs for 7860.01 or 7860.02. Repeatable to a maximum of 9 cr hrs.

7860.02 Seminar in 20th Century British and/or American Literature

G 3

Problems, forms, and themes in twentieth-century British and/or American literature; study of particular twentieth-century British and/or American writers.

Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 860 or 9 sem cr hrs 7860.01 or 7860.02. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7861.01 Studies in Narrative and Narrative Theory

G 3

Seminar in narrative theory and practice; focus on an approach (e.g., feminist narratology), a problem (ethics), or subcategory of narrative (the graphic novel).

Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 861 or 12 sem cr hrs for 7861.01 or 7861.02. Repeatable to a maximum of 12 cr hrs.

7861.02 Studies in Narrative and Narrative Theory

G 3

Seminar in narrative theory and practice; focus on an approach (e.g., feminist narratology), a problem (ethics), or subcategory of narrative (the graphic novel).

Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 861 or 12 sem cr hrs for 7861.01 or 7861.02. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7864.01 Postcolonial/Transnational Literatures

G 3

Topics include postcolonial and transnational literature in English; theories of colonial, postcolonial, and transnational literature and culture.

Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 864 or 9 sem cr hrs for 7864.01 or 7864.02. Repeatable to a maximum of 9 cr hrs.

7864.02 Postcolonial/Transnational Literatures

G 3

Topics include postcolonial and transnational literature in English; theories of colonial, postcolonial, and transnational literature and culture.

Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 864 or 9 sem cr hrs for 7864.01 or 7864.02. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7871.01 Seminar in the Forms of Literature

G 3

A graduate seminar in the forms of poetry, fiction, and/or creative nonfiction.

Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 781, or equiv. Repeatable to a maximum of 12 cr hrs.

7871.02 Seminar in the Forms of Literature

G 3

A graduate seminar in the forms of poetry, fiction, and/or creative nonfiction.

Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 781 or equiv. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7872.01 Studies in the English Language

G 3

Advanced English language study; topics vary.

Prereq: 771 or Linguist 601, or equiv, and permission of instructor. Not open to students with 10 qtr cr hrs for 872 or 6 sem cr hrs for 7872.01 or 7872.02. Repeatable to a maximum of 6 cr hrs.

7872.02 Studies in the English Language

G 3

Advanced English language study; topics vary.

Prereq: 771 or Linguist 601, or equiv, and permission of instructor. Not open to students with 10 qtr cr hrs for 872 or 6 sem cr hrs for 7872.01 or 7872.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7876.01 Seminar in Critical Theory

G 3

A review of theory and practice in some of the principal forms of literary analysis; focus on a single theoretical movement or a single critical problem.

Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 876 or 6 sem cr hrs for 7876.01 or 7876.02. Repeatable to a maximum of 6 cr hrs.

7876.02 Seminar in Critical Theory

G 3

A review of theory and practice in some of the principal forms of literary analysis; focus on a single theoretical movement or a single critical problem.

Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 876 or 6 sem cr hrs for 7876.01 or 7876.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7878.01 Seminar in Film & Media Studies

G 3

An intensive study of selected issues, themes, and forms in Film & Media Studies.

Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 878 or 6 sem cr hrs for 7878.01 or 7878.02. Repeatable to a maximum of 6 cr hrs.

7878.02 Seminar in Film & Media Studies

G 3

An intensive study of selected issues, themes, and forms in Film & Media Studies.

Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 878 or 6 sem cr hrs for 7878.01 or 7878.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7879.01 Seminar in Rhetoric

G 3

Rhetoric of a particular period; major figures in rhetoric, rhetorical analysis of literature.

Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 879 or 6 sem cr hrs for 7879.01 or 7879.02. Repeatable to a maximum of 6 cr hrs.

7879.02 Seminar in Rhetoric

G 3

Rhetoric of a particular period; major figures in rhetoric, rhetorical analysis of literature.

Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 879 or 6 sem cr hrs for 7879.01 or 7879.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7880.01 Seminar in Composition

G 3

Invention; the composing process and revision; evaluating and responding to writing; discourse analysis.

Prereq: Grad standing or permission of instructor. Not open to students with 10 qtr cr hrs for 880 or 6 sem cr hrs for 7880.01 or 7880.02. Repeatable to a maximum of 6 cr hrs.

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7880.02 Seminar in Composition	G	3	7890.02 Seminar in Feminist Studies in Literature and Culture	G	3
Invention; the composing process and revision; evaluating and responding to writing; discourse analysis.			Analysis of literary and cultural texts through feminist methodologies. Time, period, and topic vary.		
Prereq: Grad standing or permission of instructor. Not open to students with 10 qtr cr hrs for 880 or 6 sem cr hrs for 7880.01 or 7880.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 892 or 12 sem cr hrs for 7890.01 or 7890.02. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		
7881.04 Teaching Business and Professional Communication	G	3	7891.01 Seminar in Disability Studies in Language and Literature	G	3
Theoretical foundations of and teaching techniques for major units in business communication, designed to prepare graduate students to do research in and to teach business and professional writing.			Intensive study of disability as a representational system and of key issues in disability studies. Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 891 or 12 sem cr hrs for 7891.01 or 7891.02. Repeatable to a maximum of 12 cr hrs.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 881.04, 7881.44 or equiv.			7891.02 Seminar in Disability Studies in Language and Literature	G	3
7881.44 Teaching Business and Professional Communication	G	3	Intensive study of disability as a representational system and of key issues in disability studies. Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 891 or 12 sem cr hrs for 7891.01 or 7891.02. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		
7883.01 Seminar in Literacy Studies	G	3	7895.01 Seminar in Research Methods in Rhetoric and Composition	G	3
Study of a special topic in literacy studies; topics vary, but may include race, popular culture, gender, technology, or globalization.			Advanced study in a specific quantitative or qualitative research method in rhetoric and composition.		
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 883 or 9 sem cr hrs for 7883.01 or 7883.02. Repeatable to a maximum of 9 cr hrs.			Prereq: 6795 (795), or permission of instructor. Not open to students with 10 qtr cr hrs for 895 or 6 sem cr hrs for 7895.01 or 7895.02. Repeatable to a maximum of 6 cr hrs.		
7883.02 Seminar in Literacy Studies	G	3	7895.02 Seminar in Research Methods in Rhetoric and Composition	G	3
Study of a special topic in literacy studies; topics vary, but may include race, popular culture, gender, technology, or globalization.			Advanced study in a specific quantitative or qualitative research method in rhetoric and composition.		
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 883 or 9 sem cr hrs for 7883.01 or 7883.02. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 895 or 6 sem cr hrs for 7895.01 or 7895.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
7884.01 History of Literacy/Literacy Past and Present	G	3	8193 Individual Studies	G	1 - 9
Advanced exploration of the history of literacy; its relationship to societies, cultures, and change; the acquisition, practice, and impacts of literacy in historical contexts.			Doctoral students may register for individual study in areas not normally covered by courses. Prereq: Permission of grad committee. Not open to students with 30 qtr cr hrs for 993 or 18 sem cr hrs 8193. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.		
Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7884.01 or 7884.02, or 10 qtr hrs of 884 or History 775. Repeatable to a maximum of 9 cr hrs. Cross-listed in History 7884 and CompStd 7884.					
7884.02 History of Literacy/Literacy Past and Present	G	3	8858.01 Seminar in Folklore	G	3
Advanced exploration of the history of literacy; its relationship to societies, cultures, and change; the acquisition, practice, and impacts of literacy in historical contexts.			Advanced seminar on current or specialized topics in folklore studies.		
Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7884.01 or 7884.02, or 10 qtr hrs of 884 or History 775. Repeatable to a maximum of 9 cr hrs. This course is graded S/U. Cross-listed in History 7884 and CompStd 7884.			Prereq: Grad standing, or permission of instructor. Not open to students with 9 sem cr hrs of English 8858.01 (can include equiv qtr or hrs for 870), English 8858.02, or CompStd 8858. Repeatable to a maximum of 9 cr hrs. Cross-listed in CompStd 8858.		
7888.01 Interdepartmental Studies in the Humanities	G	1 - 3	8858.02 Seminar in Folklore	G	3
Two or more departments present colloquia on subjects of mutual interest; topics to be announced.			Advanced seminar on current or specialized topics in folklore studies.		
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 792 or 9 sem cr hrs for 7888.01 or 7888.02 or equiv. Repeatable to a maximum of 9 cr hrs or 9 completions. Cross-listed in AfAmAST, Clas, English, French, German, NELC, Spanish and WGSST.			Prereq: Grad standing, or permission of instructor. Not open to students with 9 sem cr hrs of 8858.01 (can include equiv qtr or hrs for 870), English 8858.02, or CompStd 8858. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.		
7888.02 Interdepartmental Studies in the Humanities	G	1 - 3	8903 Teaching College English	G	1 - 3
Two or more departments present colloquia on subjects of mutual interest; topics to be announced.			Students work as apprentices to faculty members in the planning and execution of an undergraduate English course; 8903 (903) must be taken prior to the candidacy exam. Not open to ABD students.		
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 792 or 9 sem cr hrs for 7888.01 or 7888.02 or equiv. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U. Cross-listed in AfAmAST, Clas, English, French, German NELC, Spanish or WGSST.			Prereq: 8903 (903). Not open to students with 15 qtr cr hrs for 903 or 9 sem cr hrs for 8903. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.		
7889.01 Seminar on Digital Media Studies	G	3	8904 Writing for Publication	G	1 - 3
Advanced theoretical and practical approaches to digital media in English studies. Examines such intellectual questions as authorship, narrative, argument, and the nature of texts.			Assists students in English in learning to write publishable critical essays and in becoming familiar with publishing protocols.		
Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 889 or 6 sem cr hrs for 7889.01 or 7889.02. Repeatable to a maximum of 6 cr hrs.			Prereq: Not open to students with credit for 904, except by permission of director of Graduate Studies. Repeatable with permission of director of Graduate Studies. This course is graded S/U.		
7889.02 Seminar on Digital Media Studies	G	3	8982.01 Textual Criticism and Editing	G	1 - 3
Advanced theoretical and practical approaches to digital media in English studies. Examines such intellectual questions as authorship, narrative, argument, and the nature of texts.			Evaluation of literary editorial methods, past and present; training in skills requisite to the textual critic and scholarly editor; practice in textual editing.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 10 qtr cr hrs for 889 or 6 sem cr hrs for 7889.01 or 7889.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			Prereq: 8980 (980) or equiv. Not open to students with credit for 982, 8982.01, or 8982.02.		
7890.01 Seminar in Feminist Studies in Literature and Culture	G	3	8982.02 Textual Criticism and Editing	G	1 - 3
Analysis of literary and cultural texts through feminist methodologies. Time, period, and topic vary.			Evaluation of literary editorial methods, past and present; training in skills requisite to the textual critic and scholarly editor; practice in textual editing.		
Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 892 or 12 sem cr hrs for 7890.01 or 7890.02. Repeatable to a maximum of 12 cr hrs.			Prereq: 8980 (980) or equiv. Not open to students with credit for 982, 8982.01, or 8982.02. This course is graded S/U.		
8996 Research in English: Candidacy Examination	G	1 - 18			
			Research in preparation for PhD exams; arranged.		
			Prereq: Permission of director of Grad studies. Not open to students with 30 qtr cr hrs for 996 or 18 sem cr hrs for 8996. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.		

8997 The Dissertation Seminar	G	1 - 3
Doctoral candidates present their research-in-progress to faculty and each other.		
Prereq: Successful completion of candidacy exam. Not open to students with 15 qtr cr hrs for 997 or 9 sem cr hrs for 8997. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.		
8998 Research in English		
Research in English.	G	1 - 18
Prereq: Not open to students with credit for 998. Repeatable. This course is graded S/U.		
8999 Research in English: Dissertation		
Research for dissertation purposes only.	G	1 - 18
Prereq: Not open to students with credit for 999. Repeatable. This course is graded S/U.		

Entomology

1100 Exploring Entomology	U	½
Basic understanding of the global trends within entomology, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.		
1101 Insect Biology	U	4
Acquaints people with the incredible biological diversity represented by the largest group of living animals, the insects. Insects will be used to illustrate important biological principles and functions as well as the scientific process.		
Prereq: Not open to students with credit for 1111 (101), 3000 (500), 4000 (500), or 4600. GE nat sci bio course.		
1111 Biology of Insects, Animals & Fungi Affecting Buildings	U	4
Acquaint construction engineers with the incredible biological diversity found on Planet Earth using insects as examples and biological models. Management of building attacking and inhabiting insects, animals and fungi will be covered.		
Prereq: Not open to students with credit for 1101 (101), 3000 (500), 4000 (500), or 4600. GE nat sci bio course.		
1260 Introductory Insect Field Biology	U	2
Biology of insects and their relatives, with emphasis on behavior, ecology, and diversity; collection is required. Offered as one week summer course at Stone Lab.		
Prereq: Course in high school biology. Not open to students with credit for Entomol 126.		
1350 The Biology of Hope and Belief	U	3
The underlying premise of this course is that the human mind and human behaviors have been shaped by the force of natural selection. Some of these behaviors are complex, longstanding and present in every human culture ever studied. This course explores the biological basis for two of them: the human capacity for hope and the human desire to believe in a supernatural deity.		
Prereq: Not open to students with credit for Biology 1350. GE nat sci bio course.		
2101 Insects and Human Affairs: Pests, Plagues, Poisons and Politics	U	3
Insects are a daily fact of life, exerting major influence on human affairs over the course of history. The course analyses the extensive and sometimes uncomfortable relationships between insects and humans, including historical roots of insect/human interactions, impact of insects on development of scientific thought, use of insects as experimental models in drug design and military applications.		
Prereq: Not open to students with credit for 102. GE nat sci bio course.		
2200 Beekeeping	U	3
General information on the biology, behavior and management of honey bee colonies, including pollination behavior and simple honey processing. Class will be video linked from Wooster.		
2400H Evaluating Evidence in Biology & Medicine	U	3
Explores information and scientific literacies in biology and medicine, with emphasis on science as reported in the media and the use of insects and other organisms as model systems. We use evolutionary theory as the unifying framework for all life on earth. The ability to scrutinize science as reported in popular sources and to procure additional, credible information is emphasized.		
Prereq: Honors standing. GE nat sci bio course.		
3330 Social Insects	U	3
Three hour general education course. Exploration of biological factors that permit ants, bees, wasps, and termites to maintain large and complex societies. Includes lecture and recitation.		
Prereq: Entmlgy 1101 (101) or Biology 1101 (101), or equiv. Not open to students with credit for Entmlgy 4440H (Entomol 444H) or Entomol 333. GE nat sci bio course.		
3790H Pre-departure Course for Evolution in Darwin's World and Ours	U	2
This course prepares students for study abroad in England by focusing on the origins of evolutionary thought in biology & medicine, Charles Darwin's life and scientific contributions (notably to evolutionary theory), and modern evolutionary theory as a working paradigm with broad applications and meaning in today's world. Students must also enroll in 3797H in subsequent summer term.		
Prereq: Honors standing, or permission of instructor.		

3797H Evolution in Darwin's World and Ours	U	2
Students will learn about sources of evolutionary ideas in the late 18th century, then examine 19th century Darwinian theory in historical context. During the 2-week study abroad in England and France, students will study the fundamental tenets of modern evolutionary theory and explore its broad applications in biology, medicine, forensics and other human endeavors. Final 2 weeks in Columbus.		
Prereq: Honors standing, or permission of instructor; and 3790H.		
4000 General Entomology		
Introduction to the study of insects. Serves both as a single, concise exposure to the subject and as a foundation for more advanced work in entomology.		
Prereq: Biology 1114 (114) or 1115H (115H). Not open to students with credit for 3000 or Entomol 500.		
4191 Internship Experiences in Entomology	U	1 - 2
Ten or more weeks of an individualized experiential learning opportunity designed to link theoretical classroom knowledge with practical field application or research experience in an ongoing research environment.		
Prereq: 3000 (500) or 4000 (500), and an additional Entmlgy course at the 3000 (300) level or above, and Soph standing or above, and permission of advisor. Repeatable to a maximum of 4 cr hrs or 2 completions. This course is graded S/U.		
4193 Individual Studies	U	1 - 3
Individual work in the field of entomology, involving laboratory, field, or library studies, appropriate for the student's needs.		
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		
4194 Group Studies	U	1 - 3
Special group study of a selected area in the field of entomology not provided in other courses. Repeatable to a maximum of 9 cr hrs or 9 completions.		
4440H Honors Social Insects	U	3
Exploration of biological factors that allow ants, bees, wasps, and termites to maintain large complex societies.		
Prereq: Honors standing, and Entmlgy 1101 (Entomol 101) or Biology 1101 (101), or equiv. Not open to students with credit for Entmlgy 3330 (Entomol 333) or 444H.		
4600 Introduction to Insect Science	U	1
This digital course provides basic information on insects to students intending to take additional coursework in entomology.		
Prereq: Biology 1101 (101), 1113 (113), or 1115H (115H), or equiv. Not open to students with credit for 1101 (101), 1111, 3000 (500), 4000 (500), 460, or 462.		
4601 General Insect Pest Management	U	2
Exploration of insect pests that affect crops, landscapes, public health, and domestic animals, and the biological, cultural, and chemical tactics used to manage them.		
Prereq: 1101, 1111, 3000, 4000, or 4600. Not open to students with credit for Entomol 460.		
4602 Urban Landscape and Greenhouse Entomology	U	2
An economic entomology course covering the insect and mite pests of ornamental plants, turfgrass and greenhouse crops. Major pest groups are covered and control of the pests using Integrated Pest Management is emphasized.		
Prereq: 1101 (101), 1111, 3000 (500), 4000 (500) or 4600. Not open to students with credit for 462.		
4603 Agricultural Entomology	U	2
An exploration of insect pests that affect grain, forage, vegetable, and fruit crops, and the biological, cultural, and chemical tactics used to manage them.		
Prereq: 1101, 1111, 3000, 4000 or 4600. Not open to students with credit for Entomol 460.		
4606 Introduction to Forensic Entomology	U	2
Introduction to the basics of using insects as a tool in forensic science. Coverage includes introduction to relevant insect life cycles, factors affecting development time and working as part of a forensic team to solve crimes.		
Prereq: 1101 (101), 1111, 3000 (500), 4000 (500), or 4600 (460 or 462).		
4607 Veterinary Entomology	U	2
Examine the role for arthropods in direct causation and transmission of animal diseases with emphasis on prevention and treatment.		
4998 Undergraduate Research in Entomology	U	1 - 3
Undergraduate experience in entomological research in variable topics.		
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		
4999 Research with Distinction	U	1 - 5
Conducting and reporting research with distinction.		
Prereq: GPA 3.0 or above overall, GPA 3.0 or above in the major, and permission of project supervisor. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		

190 Entomology

4999H Honors Research with Distinction

U 1 - 5

Conducting and reporting Honors research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the University's Denman Undergraduate Research Forum. Completion of online Honors Research Workshop required prior to enrollment.

Prereq: Honors standing, and CPHR 3.40 or above, and GPA 3.40 or above in major, and permission of honors project supervisor. This course is graded S/U.

5001 Entomological and Environmental Approaches to Fly Fishing

U G 3

Students will study the life histories and behaviors of the most common aquatic insects that serve as a primary food source for rainbow, brown and steelhead trout in Ohio streams. To enhance student success and enjoyment of fly fishing, the course content will include stream ecology, hydrology, and hydrodynamics, water quality, how to sample and identify macroinvertebrates, and fly-tying.

This course is graded S/U.

5110 Ecology and Management of Pathogens and Insects Affecting Trees in Forest and Urban Environments

U G 3

Overview of major pathogens and insects affecting health of forest and shade trees with emphasis on diagnosis, ecology, and management. Video-linked to Wooster.

Sp Sem. Prereq: Not open to students with credit for Entomol 461 or PlntPth 610. Cross-listed in PlntPth.

5130 Field Insect Taxonomy

U G 3

This is a traditional entomology "collect, preserve and identify" course. It is designed for majors, minors and plant health care students to become more fluent in their identification skills using taxonomic keys and performing biodiversity studies.

Prereq: 1101 (101), 1111, 3000 (500), 4000 (500), or 4600 (460 or 462), or permission of instructor. Not open to students with credit for Entomol 621.

5350.01 Taxonomy and Behavior of Aquatic Invertebrates

U G 3

Taxonomy and behavior of the major groups of aquatic invertebrates, with an emphasis on North American freshwater macroinvertebrates. 1-2 required field trips.

Prereq or concr: ENR 5280, or permission of instructor. Not open to students with credit for ENR 5350.01. Cross-listed in ENR.

5420 Insect Behavior: Mechanisms and Function

U G 3

Understanding the mechanisms and evolution of insect behavior and communication. Course will address behavioral physiology and ecology, sociality, learning and cognition, as well as applied aspects of insect behavior.

Prereq: 3000 (500), 4000 (500), Biology 1114 (114), or 1114H (116H) or equiv, or permission of instructor. Not open to students with credit for Entomol 642.

5500 Biological Control of Arthropod Pests

U G 3

Covers philosophy, science, and application of biological control. Biology, mass-production, formulation, and application of various parasites, predators, and pathogens of pests will be discussed.

Prereq: Jr standing or above. Not open to students with credit for 650.

5600 Principles and Applications of Integrated Pest Management

U G 3

Overview of the principles of integrated pest management (IPM) of arthropod pests using an ecological approach, including examining how various management tactics can be used in an integrated manner.

Prereq: Jr standing or above. Not open to students with credit for 660.

5601 Current Topics in Entomology, Science and Society

U G 3

Capstone study of one timely issue intersecting science and society; critical and creative analysis of diverse standpoints and disciplines within and beyond agricultural and environmental sciences, including entomology and environmental toxicology.

Prereq: Sr standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

5604 Capstone Course: Problem-Based Studies in Plant Health

U G 2

Students will be presented with a current plant health problem from the industry. They will gather diverse information from consultants, synthesize novel solutions, and develop implementation plans.

Prereq: Jr, Sr, or Grad standing in Entmlgy, PlntPth, or Plant Hlth Mgmt. Not open to students with credit for PlntPth 5604. Cross-listed in PlntPth.

5608 Turfgrass Insect and Mite Pests - Identification, Biology, and Management

U G 2

This course provides information on the insect groups that attack managed turfgrass (lawns, grounds, sport fields, and golf courses) in such a manner that participants will learn how to diagnose and identify common pests, and be able to select appropriate methods of managing these pests.

Prereq: 1101 (101), 1111, 3000, 4000 (500), or 4600.

5623 Insect Morphology

U G 2

A classical course that surveys the external and internal morphology of insects. Dissection techniques, making biological illustrations and histochemical techniques are also covered.

Prereq: 3000 (500), or 4000 (500), or permission of instructor. Not open to students with credit for 623.

5797 Emerging Arthropods, Pathogens, and Challenges in Vector Biology

U G 3

Provides students with immersive field and lab experiences that span the entire spectrum of vector biology. The course consists of a study abroad component in Xalapa, Mexico (INECOL) focused on the collection and identification of arthropod vectors (e.g., mosquitoes) in the field, and a local component in Wooster, OH (OARDC) focused on molecular approaches used in vector biology. A prior introductory course in entomology or public health/infectious diseases is highly encouraged. Familiarity with the Spanish language is highly recommended for OSU students, and English is needed for INECOL students.

Prereq: Jr or Grad standing.

5800 Pesticide Science

U G 3

Exploration of pesticide toxicology and practical use; modes of action in target organisms, regulations, application methods, environmental fate, resistance management, and use in integrated pest management programs.

Prereq: Jr standing or above.

6193 Individual Studies

G 1 - 6

Individual work in the field of entomology, involving laboratory, field, or library studies, appropriate for the student's needs.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

6194 Group Studies

G 1 - 3

Special group study of a selected area in the field of entomology not provided in other courses. Repeatable to a maximum of 9 cr hrs or 9 completions.

6210 Evolution and Diversity of Insects

G 4

The scope of this course extends from the molecular to at least the community and ecosystem levels. Elucidation of the pattern of insect evolution builds upon molecular, anatomical, and behavioral data. Students will study and learn about the evolutionary and developmental origins of anatomical structures and understand how those structures interact and function.

Prereq: 3000 or 4000 (500), or equivalent, or permission of instructor.

6310 Insect Physiology and Molecular Biology

G 3

Explores physiological and molecular mechanisms that regulate insect development and function.

Prereq: Credit for one Entmlgy course, and Grad standing; or permission of instructor. Not open to students with credit for 631.

6320 Experimental Insect Physiology and Molecular Biology

G 1

This laboratory course uses both classical and cutting-edge experimental techniques to uncover aspects of insect biology. We will conduct a series of novel experiments on diapausing and non-diapausing model insects to show physiological and molecular mechanisms used to survive winter. The course goal is to create a student co-authored manuscript to submit to the Journal of Insect Physiology.

Prereq or concr: 6310.

6410 Insect Ecology and Evolutionary Processes

G 3

Overview of abiotic and biotic factors influencing the diversity, distribution, and abundance of insects, including the role of insects as model systems in the development of general ecological and evolutionary principles.

Prereq: EEOB 503.01 or 503.03, or equiv, or permission of instructor. Not open to students with credit for Entomol 641.

6501 Mentored Teaching in Entomology

G 1 - 3

Students will work with faculty members to gain intensive hands-on mentored experiences focused on direct interaction with students and on the scholarly aspects of effective teaching. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

6502 Mentored Extension Experience in Entomology

G 1 - 3

Students will work with faculty members to gain intensive hands-on mentored experiences focused on direct interaction with community stakeholders and on various aspects of extension work.

Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

6702 Entomological Techniques and Data Analysis

G 2

A hands-on course about techniques used with living insects, and design and analysis of simple experiments. Entomological techniques include rearing, colony establishment, behavior assays, growth analysis, and insecticide dose/response bioassays.

Prereq: 3000 or 4000, or equiv.

6703 Molecular Techniques and Data Analysis

G 2

Deals with basic molecular biology techniques required to conduct genomics, proteomics and metabolomic studies. Hands-on experience in bioinformatics, functional genomics and metabolite analysis will be emphasized.

6704 System Analysis, from Molecules to Ecosystems

G 2

Theory and practice of systems analysis and quantitative methods to describe and test complex hypotheses about insects in natural and managed ecosystems, focusing on processes of interest in entomology from molecular to ecosystem levels.

Prereq: Math 117, 1130 (130), 1148 (148), 1150 (150), 1151.01 (151), or 1161 (161), and Stat 1350 (135), 1450 (145), or 5301 (528). Not open to students with credit for Entomol 645.

7300 Plant Health Management Seminar	G 1
This course is designed to cover current topics in plant health management for students in the Master in Plant Health Management program. Topics and guest speakers may differ from semester to semester and will depend on student interest.	
Repeatable to a maximum of 6 cr hrs. This course is graded S/U. Cross-listed in PlntPth.	
7890 Special Topics in Entomology	G 1 - 3
Seminar on publications, current research, or research techniques.	
Repeatable to a maximum of 6 cr hrs or 6 completions.	
7910 The Nature and Practice of Science	G 2
Analysis and application of logic underlying scientific reasoning, theory, hypothesis, and their integration with experimental design, discovery, ethics, and science as a human endeavor.	
Prereq: Not open to students with credit for Entomol 790.	
7920 Presentation Skills for Scientists	G 2
Professional development course for graduate students who are interested in developing and improving their presentation skills for communicating with peer scientists and the public, using a variety of media.	
7930 Scientific Writing & Grant Proposal Development	G 2
For graduate students who wish to develop and improve their written skills for communicating with technical and nontechnical audiences.	
8000 Entomology Seminar	G 1
Weekly departmental seminars given by experts in the field are used to give students insight into current trends in entomological research.	
Prereq: Grad standing in Entmlgy. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.	
8800 Research and Training Seminar	G 1
Presentation of procedures, resources, and faculty research in the Department of Entomology.	
Required of all graduate majors during the first year of registration.	
Prereq: First year Grad standing in Entmlgy. Not open to students with credit for Entomol 880. This course is graded S/U.	
8999 Research in Entomology	G 1 - 15
Research for thesis and dissertation purposes only.	
Repeatable to a maximum of 60 cr hrs or 20 completions. This course is graded S/U.	

Environment and Natural Resources

1100 Environment and Natural Resources Survey	U 1
Survey course for ENR students. Covers academic requirements; university procedures, grading system, resources; student rights and responsibilities; overview of academic areas of study. Also covers career opportunities in Env't and Nat Res.	
Prereq: Not open to students with credit for 119 or FAES 100.	
1100H Environment and Natural Resources Survey - Honors Section	U 1
Survey course for ENR Honors students. Covers academic requirements; university procedures, grading system, resources; student rights and responsibilities; overview of academic areas of study. Also covers career opportunities in Env't and Nat Res.	
Prereq: Honors standing. Not open to students with credit for 119 or FAES 100H.	
1150 ENR Scholars Seminar	U 1
Designed for first year Environment and Natural Resources Scholars students to explore personal interests, interdisciplinary opportunities, campus and local community resources, and issues and activities related to Environment and Natural Resources.	
Prereq: Must be an ENR Scholar.	
1200 Exploring Sustainability: SUSTAINS LC Seminar	U 1
This seminar course is designed for SUSTAINS Learning Community students to explore their interests within sustainability, learn about opportunities to be involved in campus and local community sustainability efforts, and connect with campus partners and faculty working and researching in the field. Students must be a part of the SUSTAINS Learning Community in order to take this seminar.	
Prereq: Must be in the SUSTAINS Learning Community. Repeatable to a maximum of 2 cr hrs. This course is graded S/U. Cross-listed in AEDecon.	
2000 Natural Resources Data Analysis	U 3
Introductory data analysis course that focuses on understanding and applying basic statistical concepts, problem solving, and interpreting the results of statistical analysis.	
Au, Sp Sems. Prereq: Not open to students with credit for 222. GE data anly course.	
2100 Introduction to Environmental Science	U 3
Introduction to environmental science, the ecological foundation of environmental systems, the ecological impacts of environmental degradation by humans, and strategies for sustainable management of environment and natural resources.	
Au, Sp, Su Sems. Prereq: Not open to students with credit for 201. This course is available for EM credit. GE nat sci bio course.	
2155 Energy and Environment	U 3
This course introduces and examines the fundamentals of energy sources, energy use, energy efficiency, and resulting environmental implications of the various energy supplies.	
Sp Sem. Prereq: Not open to students with credit for 155 or EarthSc 2155 (EarthSci 155). GE nat sci phys course. Cross-listed in EarthSc.	
2191 Natural Resources Practicum	U 1
Experience in the application of principles and techniques of environmental/natural resources problem solving.	
Prereq: Enrollment in the school of Environment and Natural Resources, and permission of instructor. Not open to students with 2 cr hrs or 2 completions for 2191 (289). Repeatable to a maximum of 2 cr hrs. This course is progress graded (S/U).	
2300 Society and Natural Resources	U 3
Introduction to interactions between humans, natural resources, and ecosystems from a social science perspective.	
Au, Sp, Su Sems. Prereq: Not open to students with credit for 203. GE soc sci human, nat, and econ resources course.	
2360 Ecology and Conservation of Birds	U 2 - 3
Introduction to the ecology and conservation of birds, with special emphasis on field ornithology and student research projects. Course integrates many concepts to build understanding of how research and management can support bird conservation.	
Prereq: Not open to students with credit for 230 or 231.	
2367 Communicating Environmental and Natural Resources Information	U 3
Concepts, skills development, and practice in accessing and communicating information about the environment and natural resources to varied audiences; emphasis on written and oral communication.	
Au, Sp Sems. Prereq: English 1110 (110) or 111. Not open to students with credit for 367 or LArch 367. GE writing and comm course: level 2.	
2500 Introduction to Environment, Economy, Development and Sustainability	U 3
Introduces students to principles from various disciplines related to social, economic and environmental sustainability. Students will evaluate key concepts and examine tradeoffs that are a part of sustainability action using case studies representing diverse perspectives.	
Prereq: Soph standing, or permission of instructor. Cross-listed in AEDecon.	
3000 Soil Science	U 3
Introduction to soil physical, chemical, and biological properties related to land use, environmental quality, and crop production.	
Au, Sp Sems. Prereq: Not open to students with credit for 300.01. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.	
3001 Soil Science Laboratory	U 1
Observation and quantitative determination of soil properties.	
Prereq or concr: 3000 (300.01). Not open to students with credit for 300.02. GE nat sci phys course. NS Admis Cond course.	
3280 Water Quality Management	U 2
Causes, consequences, and solutions of pollution in lakes, rivers, wetlands, and groundwater; analysis of the physical, chemical, and biological indicators of water quality.	
Au Sem. Prereq: Not open to students with credit for 355.	
3285 Watershed Hydrology	U 3
Covers all aspects of hydrologic processes occurring within a watershed, including precipitation, infiltration, evapotranspiration, runoff, and streamflow. We will evaluate how the complex combination of watershed characteristics, climate, and land use practices influence these processes. In addition, we will explore approaches on how to address pertinent watershed management issues.	
3300 Introduction to Forestry, Fisheries, and Wildlife	U 3
Ecological principles applied to integrated management of forest, fish, and wildlife resources; economic, policy, and administrative aspects of forestry, fisheries, and wildlife management.	
Au, Sp Sems. Prereq: 2100 (201). Not open to students with credit for 319.	
3321 Biology and Identification of Woody Forest Plants	U 3
Field identification of trees, shrubs, and vines in temperate forest ecosystems; basic biological principles of morphology, reproduction, growth, genetics, and taxonomy of major woody species.	
Au Sem. Prereq: Not open to students with credit for 221.	
3322 Forest Ecosystems	U 3
Structure and function of temperate forest ecosystems; field-oriented study of the relationships among ecosystem components, and of the composition and successional dynamics of forest communities. One or more all-day field trips.	
Au Sem. Prereq or concr: 2100 (210), 2300 (203), and 3321 (221), or permission of instructor. Not open to students with credit for 322.	
3323 Forest Biometrics	U 3
A study of the quantitative decision tools necessary to measure the forest resource; confidence and probability measures of land area, timber, water, wildlife, and recreation.	
Sp Sem. Prereq: 2000 (222), Stat 1450 (145), HCS 2260 (260), or AnimSci 2260 (260). Not open to students with credit for 323.	
3333 Silviculture	U 3
Ecological principles and practical applications of methods for controlling forest ecosystem structure and function; prescription of silvicultural practices in the field. One or more all-day field trips.	
Sp Sem. Prereq or concr: 2100 (201), 2300 (203), and 3321 (221), or permission of instructor. Not open to students with credit for 333.	

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3335.01 Introduction to Wildland Fire Management U 2

Wildland fire behavior, fire safety, control of wildland fires, and the use of prescribed fire in management objectives. Meets S-100 and S-190 requirements for wildland firefighter certification.

Au Sem. Prereq: Not open to students with credit for 350.01.

3335.02 Wildland Fire Management Laboratory U 1

Teaches wildland firefighter skills and safety, and provides familiarity with tools and apparatus. Meets S-130 requirements for wildland firefighter certification. One weekend field work required.

Au Sem. Prereq or concr: 3335.01. Not open to students with credit for 350.02.

3400 Psychology of Environmental Problems U 3

The theory and psychology behind individual and group behavior as it relates to environmental problems.

Au Sem. Prereq: 2300 (203) or Psych 1100 (100). Not open to students with credit for 615.

3470 Religion and Environmental Values in America U 3

Examines development & influence of religious environmental values & their impact on environmental citizenship in America; Jewish, Muslim, Buddhist & Christian environmental perspectives; stewardship, eco-justice & creation spirituality.

Sp Sem. Prereq: Not open to students with credit for 347. GE cultures and ideas course.

3500 Community, Environment and Development U 3

Social change related to natural resource and environmental issues. Includes a focus on community-level initiatives, environmental social movements, and issues of environmental justice.

Sp Sem. Prereq: 2300 (203), RurSoc 1500 (105), or Sociol 1101 (101).

3530 Women, Environment and Development U 3

Interdisciplinary study of women's roles as environmental stewards and in resource-based development in global context. Attention given to gender differences in environmental and rural development practices.

Cross-listed in WGSSI.

3600 Management of Public Lands U 2

Examination of parks and recreation concepts including development, rationale, and frameworks for park and recreation systems in the United States.

Sp Sem. Prereq or concr: 2100 (201) and 2300 (203), or permission of instructor. Not open to students with credit for 340.

3611 Foundations for Environmental Communications, Education and Interpretation U 2

Foundational course that prepares students for understanding the theoretical bases that relate to and differentiate between environmental communications, education, and interpretation. Course includes required field trips.

Au Sem. Prereq: Not open to students with credit for 311.

3700 Introduction to Spatial Information for Environment and Natural Resources U 3

Introduction to methods of collecting and utilizing spatial information (GIS, RS and GPS) for Environmental and Natural Resources management.

Prereq: Not open to students with credit for 3750 or 324.

3800 Principles and Tools of Ecosystem Restoration U 2

The new Anthropocene era brings with it mass extinctions, climate change, and ecosystem degradation. Restoration provides us with hope for the future. We will examine the philosophical and practical basis for restoration, reviewing how decisions are made and implemented.

Prereq: 2100 or Biology 1114, or permission of instructor. Not open to students with credit for 5560.

3900 Sustainability Metrics U 4

Addresses the use of metrics, data, and indicators to measure sustainability and track progress. The course will survey a broad range of environmental challenges and evaluate the choices confronting public and private groups. Students will use software tools to quantify sustainability measures.

Prereq: 2000 or AEDEcon 2005, or other GE Data Analysis course.

4000 Environmental and Natural Resources Policy U 3

Conceptual and historic development, implementation, and evaluation of environmental and natural resource policy.

Au, Sp Sems. Prereq: 2100 (201) and 2300 (203). Not open to students with credit for 400. GE soc sci orgs and polities course.

4191 Professional Practice in Environment and Natural Resources U 2

Preparation of a written report and delivery of a presentation based on internship employment in environment and natural resources professions.

Au, Sp Sems. Prereq: Not open to students with 4 cr hrs for 689 or 4191. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

4193 Individual Studies in Environment and Natural Resources U 1 - 3

Individual Studies in Environment and Natural Resources.

Au, Sp Sems. May Term. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4260 Soil Resource Management U 3

Degradation of the soil by erosion, compaction and salinity. Methods of preventing degradation and remediating existing problems. Special emphasis on conservation tillage, crop rotations, and irrigation management.

Prereq: 3000 (300.01), or permission of instructor. Not open to students with credit for 442.

4320 Sustainable Forest Products U 3

Study of forest operations & environmental effects, including timber harvesting & transport from forest to the mill. Uses of wood, fiber products, & wood waste, including solid wood products, wood composites, biomass energy, & biofuel.

Sp Sem. Prereq: 2100 (201) and 2300 (203), or permission of instructor. Not open to students with credit for 432.

4360 Zoo Science and Management U 2

Introduces students to zoo science and management through combination of formal course work and experience with zoo/aquarium professionals.

Sp Sem. Prereq: 3300 (319), 3600 (340), or 3611 (311), or permission of instructor. Not open to students with credit for 415.

4400 Law and Legal Process U 3

Introduction to American law and legal process. Addresses law, science, and administrative process esp. in regard to planning and management of land, natural resources, and the environment; examines related cases, statutes, rules, permits.

Prereq: Not open to students with credit for 694.

4567 Assessing Sustainability: Project Experience U 3

Students gain experience in sustainability assessment by applying concepts and quantitative methods to evaluate environmental, economic, social, & technical sustainability of specific projects. EEDS major capstone. Co-taught by ENR/AEDE/FABE faculty.

Prereq: Sr standing, or permission of instructor. Not open to students with credit for AEDEcon 4567. Cross-listed in AEDEcon.

4610 Natural History of Ohio U 3

Field course emphasizing inter-relationship among physical and biological factors in various ecological settings; field techniques and identification skills used for research paper. Sat field trip.

Sp Sem. Prereq: Not open to students with credit for 510.

4611 Environmental Interpretation and Visitor Services U 3

Principles and practice in communicating with visitors in leisure and non-formal education settings.

Sp Sem. Prereq: Not open to students with credit for 410.

4648 Environment and Natural Resources Law Enforcement U 3

An examination of the law enforcement function in environment and natural resources and recreation management. Prerequisite for acceptance to the Natural Resources Ranger Academy program.

Sp Sem. Prereq: Not open to students with credit for 448.

4800 Practical Skills for Terrestrial Ecosystem Restoration U 2

This course develops practical skills in restoration ecology and gives the ability to implement restoration management plans. This includes invasive species control, planting native species, seed collection, soil seedbank assays, plant propagation, and ground preparation.

Prereq: 3800.

4890H Honors Colloquium U 1

Instruction in the preparation of research proposals and discussion of current research in natural resources. Required of all ENR honors students.

Prereq: Honors standing, and Jr standing in ENR. Not open to students with credit for 590H. This course is graded S/U.

4900.01 Environment and Natural Resources Management U 3

Integration of technical knowledge with social and institutional constraints as they relate to professions in ENR management. Required of ENR EPDM and ES majors.

Au, Sp Sems. Prereq: Sr standing in ENR, or permission of instructor. Not open to students with credit for 606.01.

4900.02 Environment and Natural Resources Management for Forestry Fisheries and Wildlife U 3

Application and integration of technical knowledge and methodologies in the forestry, fisheries, and wildlife sciences to planning, problem-solving, and decision-making in environment and natural resources.

May Term. Prereq: Jr or Sr standing in ENR. Not open to students with credit for 606.02.

4950 Wilderness Leadership Education U 3

Affiliate program with the North Carolina Outward Bound School (NCOBS). Field studies and practice of wilderness expedition skills, leadership, group dynamics, safety, judgment, and environmental studies. Approval of NCOBS application required. Specific content, location, semester(s) of offering and prerequisites vary. Students will pay OSU fees and any fees in excess of OSU tuition, incl. travel.

Prereq: Permission of instructor.

4998 Undergraduate Research U 1 - 6

Conducting and reporting undergraduate research.

Prereq: Permission of research project supervisor. Not open to students with 9 sem cr hrs or 3 completions in 4683 (693). Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

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4999 Research with Distinction	U 1 - 3
Conducting and reporting undergraduate research. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.	
Prereq: 3.0 CPHR or above, and permission of project supervisor. Not open to students with 9 cr hrs or 3 completions in 4683 (693). Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.	
4999H Honors Research With Distinction	U 1 - 3
Conducting and reporting honors research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.	
Prereq: Honors standing, and CPHR 3.4 or above, and permission of advisor. Not open to students with 9 cr hrs or 3 completions for 4683 (693). Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.	
5194 Group Studies	U G 1 - 3
Group studies on the nature and management of environmental and natural resources encompassed in various developing and special topics.	
Au, Sp Sems. Prereq: Permission of instructor. Not open to students with maximum qtr or hrs for 694. Repeatable to a maximum of 6 cr hrs or 2 completions.	
5210 US Environmental Impact Assessment	U G 3
Study of impact of human activity in natural resources through evaluation of environmental impact.	
Au Sem. Prereq: Jr, Sr, or Grad standing. Not open to students with credit for 601.	
5211 International Environmental Impact Assessment	U G 3
Fundamental concepts of international environmental impact assessment including the legal and institutional frameworks, practice and performance, and social and cultural contexts that shape EIA's implementation worldwide.	
Sp Sem. Prereq: Jr, Sr, or Grad standing, or permission of instructor. Not open to students with credit for 602.	
5250.01 Wetland Ecology and Restoration	U G 3
Wetland hydrology, biogeochemistry, vegetation, biotic adaptations. Ecosystem services, classification, and management of wetlands. Fundamental concepts of ecological engineering applied to wetland creation and restoration and river restoration.	
Prereq: EEOB 503.01 or Grad standing. Not open to students with credit for 725 or 726.	
5250.02 Wetland Field Laboratory	U G 1
Laboratory on wetland hydrology, vegetation, water quality, soils, and aquatic biota.	
Prereq: Concur: 5250.01. Not open to students with credit for 725 or 726.	
5260 Soil Landscapes: Morphology, Genesis and Classification	U G 3
Course in soil genesis, classification and mapping.	
Au Sem. Prereq: 3000 (300.01) and 3001 (300.02); or Grad standing; or permission of instructor. Not open to students with credit for 650.	
5261 Environmental Soil Physics	U G 3
Principally involves the state and transport of water, heat and gas within soil, and the associated soil physical properties.	
Sp Sem. Prereq: Not open to students with credit for 655 or 671.	
5262 Soil Chemical Processes and Environmental Quality	U G 3
A comprehensive study of chemical processes in soils and their impact on environmental quality. Computer laboratory provides hands-on experience with geochemical speciation models.	
Prereq: Chem 121 and 122 or 125, or Grad standing, or permission of instructor. Not open to students with credit for 660.	
5263 Biology of Soil Ecosystems	U G 3
A comprehensive study of microbial communities and their role in providing ecosystems services.	
Sp Sem. Prereq: 3000 (300.01) or SoilSci 300.01, or Grad standing. Not open to students with credit for 665 or 682.	
5265 Characterization of Soil in the Field and Laboratory: Sampling	U G 2
Field soil observations; sampling across the landscape; GPS and GIS data acquisition systems and spatial statistical analysis; soil physical and water measurements in the field.	
Prereq: 3000 (300.01) and 3001 (300.02); or grad standing. Not open to students with credit for 720.	
5266 Field Soil Investigation: Soil Chemistry, Fertility and Biology	U G 3
A comprehensive overview of theory, principles and techniques of laboratory methods used for chemical analysis of soil, plant material, and environmental samples.	
Sp Sem. Prereq: Not open to students with credit for 740.	
5268 Soils and Climate Change	U G 2
Soil processes, abrupt climate change, trace gases and their properties, global C cycle, gaseous emissions, C-neutral fuels, carbon sequestration, Kyoto Treaty, trading of C credits.	
Sp Sem. Prereq: Not open to students with credit for 871.	

5270 Soil Fertility	U G 3
Principles of soil fertility, plant nutrition, and nutrient management; environmental considerations and low input concepts in soil fertility.	
Prereq: 3000 (300.01), or Grad standing, or permission of instructor. Not open to students with credit for 580.	
5272 Turfgrass Soils	U G 2
Soil properties and processes of specifically designed and constructed soils meeting the agronomic and playability requirements of golf course and athletic field venues.	
Sp Sem. Prereq: 3000 (300.01); or Grad standing; or permission of instructor. Not open to students with credit for 540.	
5273 Environmental Fate and Impact of Contaminants in Soil and Water	U G 3
An overview of contaminant sources, transport through soil and water, and environmental fate and impact to human and ecosystem receptors.	
Sp Sem. Prereq: Grad standing or two semesters of chemistry. Not open to students with credit for 675.	
5274 Ecosystems Simulation	U G 3
A laboratory course in conducting computer simulations of agricultural, forest and aquatic ecosystems addressing both production and environmental protection issues.	
Prereq: 3000 (300.01) and 3001 (300.02), or Grad standing. Not open to students with credit for 730.	
5279 Urban Soils and Ecosystem Services: Assessment and Restoration	U G 3
A comprehensive study focused on assessment and restoration of urban soil to provide essential ecosystem services. Urban soil laboratory provides hands-on experience with soil assessment and restoration.	
5280 Stream Ecology	U G 4
Structure, function, and biota of streams and rivers. Emphasis on ecosystem processes and community dynamics over space and time.	
Au Sem. Prereq: 3300 (319), or Grad standing, or permission of instructor. Not open to students with credit for 622.	
5310 Ecological Engineering and Science	U G 4
Definition, classification, and practice of Ecological Engineering. Course explores ecological ecosystems, ecosystem restoration, and the utilization of natural processes to provide societal services and benefits to nature.	
Prereq: One course in Biology, Ecology, Engineering, or Geology, and Jr standing or above. Not open to students with credit for EnvEng 5310 or FABEng 5310. Cross-listed in EnvEng and FABEng.	
5320 Forest Management	U G 3
Application of biological, economic, and planning principles to address the sustainable management of forest resources with emphasis of the timber resource and associated products.	
Sp Sem. Prereq: 3323 (323) and 3333 (333), or Grad standing, or permission of instructor. Not open to students with credit for 635.	
5325 Public Forest and Lands Policy	U G 3
Explores fundamental and leading-edge concepts in U.S. public forest and lands policy. Emphasizes political, legal, and administrative issues of federal and state lands, especially forests.	
* Sp Sem (even years). Prereq: 4000 (400), or Grad standing. Not open to students with credit for 736.	
5340 Forest Ecosystem Management	U G 3
Concepts and methods applied to managing forests across broad landscapes for biodiversity, multiple uses, and ecosystem integrity within the context of traditional forest management.	
Au Sem. 2 1.5-hr cl. Prereq: Sr or grad standing, and permission of instructor. Not open to students with credit for 734.	
5342 Principles of Fisheries Ecology and Management	U G 3
Ecological principles applied to conservation and management of aquatic vertebrates. Principles of fisheries management including social and economic factors.	
Prereq: 3300 (319), or grad standing, or permission of instructor. Not open to students with credit for 620.	
5345 Methods in Aquatic Ecology	U G 4
Introduction to experimental designs, field and laboratory techniques, and statistical methods commonly used to study aquatic ecosystems.	
Au Sem. Prereq: 2100 (201), or grad standing, or permission of instructor. Not open to students with credit for 626.	
5348 Conservation & Management of Aquatic Populations	U G 3
Applies concepts and principles from the fields of population ecology, demography and population genetics to current conservation and management problems facing populations of aquatic organisms.	
Prereq: 3300 or EEOB 3410, or Grad standing, or permission of instructor.	
5350.01 Taxonomy and Behavior of Aquatic Invertebrates	U G 3
Taxonomy and behavior of the major groups of aquatic invertebrates, with an emphasis on North American freshwater macroinvertebrates. 1-2 required field trips.	
Prereq or concur: 5280, or permission of instructor. Not open to students with credit for Entmlgy 5350.01. Cross-listed in Entmlgy.	

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5350.02 Taxonomy and Behavior of Fishes U G 3

Taxonomy and behavior of the major groups of fishes, with an emphasis on North American freshwater fishes.

5355 Aquaculture U G 3

Overview of physical, biological, and economical factors influencing fish culture systems. World fish production practice comparisons. Emphasis on propagation and conservation efforts. 3 cl, 1 4-hr lab, 2 hatchery trips.

Prereq: 2000, and 3300 or BIOCHEM 4511, and CHEM 1210, or grad standing. Not open to students with credit for 628.

5358 Applied Vertebrate Physiological Ecology U G 3

An examination of the physiological responses of vertebrate animals to human-induced environmental change, and the consequences of these responses for individuals and populations. This will be accomplished by an exploration of the current primary literature. SP semester only.

Prereq: EEOB 3410 or permission of instructor.

5360 Principles of Wildlife Ecology and Management U G 3

Principles of population and community ecology applied to conservation and mgmt of terrestrial vertebrates. Principles of wildlife management including social and economic factors.

Au Sem. Prereq: Not open to students with credit for 623.

5362 Wildlife Ecology Methods U G 3

Methods used by wildlife ecologists to measure population characteristics and habitat quality for wild terrestrial vertebrates. 1-2 Sat and 1 full weekend field trips required.

Au Sem. Prereq: 2000, 3300, Stat 1450, or Grad standing. Not open to students with credit for 662.

5364.01 Mammalian Wildlife Biology and Management U G 3

Identification, ecology, and population management of North American mammals. 1-2 Sat field trips required.

Au Sem. Prereq: 3300 (319) or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 624.

5364.02 Avian Wildlife Biology and Management U G 3

Identification, ecology, and population management of North American birds. 1-2 Sat field trips required.

Sp Sem. Prereq: 3300 (319) or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 624.

5370 Management of Wildlife Habitat U G 2

Principles of wildlife-habitat relationships, natural history of major North American terrestrial ecosystems, and conservation and management of wildlife habitats.

Sp Sem. Prereq: 3300 (319) or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 625.

5400 Interventions to Promote Pro-environmental Behavior U G 3

This course focuses on using psychology to change human behavior in service of sustainability. We will explore a variety of approaches for promoting pro-environmental behavior. You will learn how to design and evaluate behavioral intervention programs.

Prereq: 3400 or Psych 1100, or permission of instructor.

5451 Water Law U G 3

Review and advanced analysis of Ohio, interstate, and federal institutions and policies which influence the use and management of water resources.

Sp Sem. Prereq: 4000 (400), or Sr standing or Grad standing, or permission of instructor. Not open to students with credit for 651.

5480 Local Peoples and International Conservation U G 3

Uses interdisciplinary thinking to explore the global environmental crises and the conflicts between indigenous/local peoples, conservationists, and policy makers regarding natural resource use. The course examines biodiversity conservation, protected areas, community-based conservation, global inequities, environmental history and politics, and sustainable development.

5560 The Dynamics of Ecosystem Restoration U G 3

Ecosystems undergoing restoration are dynamic and witness major changes in their species diversity, composition, and ecosystem function. This course develops an understanding of how biotic and abiotic conditions interact with management to influence ecosystems' development.

Prereq: 3800 and 4800. Not open to students with credit for 756.

5600 Sustainable Agriculture and Food Systems U G 3

Integrative look at the social, economic, and production/environmental dimensions of sustainable agriculture and food systems. Particular attention to sociological, soil science and related disciplinary perspectives.

Prereq: 3000 (300.01) and 3500, or grad standing.

5640 Natural Resources Program Planning U G 4

Inventory and evaluation of natural resources for program planning with consideration of goals, objectives and actions, budgeting, and planning documents.

Au Sem. Prereq: 3600. Prereq or concur: 3700 and 4000; or Grad standing. Not open to students with credit for 640.

5642 Environment and Natural Resources Administration U G 3

Organization and administration of environment and natural resource agencies and non-governmental organizations.

Sp Sem. Prereq: 4000 (400), or grad standing, or permission of instructor. Not open to students with credit for 642.

5649 Wildlife Conservation Policy U G 3

Overview of fish and wildlife policy in the US and key issues affecting wildlife conservation in North America.

Sp Sem. Prereq: 4000 (400), or Grad standing. Not open to students with credit for 649.

5690 Workshop in Environmental Education U G 2

Problems of instruction in environmental education with consideration of both traditional approaches and current developments in content and methodology. Taught at F.T. Stone Lab. Su Sem. Prereq: Jr standing or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs.

5699 Current Topics in Environment and Engineering U G 1

Summer seminar which presents research, management and policy of topics in science, environment and engineering. Taught at F.T. Stone Laboratory. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

5790.06 Iceland Study Abroad Seminar U G 1

Pre-departure preparation for Iceland Study Abroad. Provides a general introduction to the country so that learning opportunities in-country will be maximized.

Prereq: Accepted and committed to participate in the SENR Study Abroad Program in Iceland.

5790.07 Dominican Republic Study Abroad Seminar U G 1

Pre-departure preparation for Dominican Republic Study Abroad.

Prereq: Accepted and committed to participate in the SENR Study Abroad Program in Dominican Republic.

5790.08 China Research Abroad Seminar U G 1

Pre-departure seminar for students participating in the China Research Abroad trip. Students will develop a research project during this course with the guidance from the instructor, creating the protocols necessary to execute the project in China.

Prereq: Students must be participating in the China Research Study Abroad program. This course is graded S/U.

5790.10 Antarctica Study Abroad Seminar U G 1

Pre-departure preparation for Antarctica study abroad. Provides general introduction to the country so that learning opportunities in-country will be maximized.

Prereq: Accepted into the Antarctica Study Abroad.

5790.11 Tanzania Study Abroad Seminar U G 3

Pre-departure preparation for Tanzania Study Abroad.

Prereq: Acceptance into the Tanzania Study Abroad program.

5797.01 Study at a Foreign Institution: Australia U G 3

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.

Au, Sp, Su Sems. Prereq: Permission of dept chairperson. Not open to students with 30 cr hrs or 2 completions of 5797 (697). Repeatable to a maximum of 30 cr hrs or 2 completions. This course is progress graded.

5797.02 Study at a Foreign Institution: Australia U G 3

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.

Prereq: Permission of resident director. Not open to students with 2 completions or 30 cr hrs of 5797 (697). This course is progress graded.

5797.03 Study at a Foreign Institution: New Zealand U G 3

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.

Prereq: Permission of resident director. Not open to students with 30 cr hrs or 2 completions of 5797 (697). This course is progress graded.

5797.04 Study at a Foreign Institution: New Zealand U G 3

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.

Prereq: Permission of resident director. Not open to students with 30 cr hrs or 2 completions of 5797 (697). This course is progress graded.

5797.05 Study at a Foreign Institution: Fiji U G 3

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.

Prereq: Permission of resident director. Not open to students with 2 completions of 5797 (697). This course is progress graded.

5797.06 Study at a Foreign Institution: Iceland U G 3

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.

Prereq: Permission of dept chairperson.

5797.07 Study at a Foreign Institution: Dominican Republic	U G	3
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.		
Prereq: Permission of the resident director. Not open to students with 2 completions of 5797 (697). This course is progress graded.		
5797.08 Study at a Foreign Institution: China Research		
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.	U G	3
Prereq: Permission of resident director. Not open to students with 2 completions of 5797 (697). This course is progress graded.		
5797.09 Study at a Foreign Institution		
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.	U G	1 - 15
Prereq: Permission of department chairperson. Not open to students with 2 completions or 30 cr hrs of 5797 (697). Repeatable to a maximum of 30 cr hrs or 2 completions. This course is progress graded.		
5797.10 Study at a Foreign Institution: Antarctica		
Two weeks of field studies in Antarctica and Ushuaia, Argentina. This course is a collaborative effort between Ohio State, American Universities International Programs, University of Canterbury, New Zealand, and Gateway Antarctica: Centre for Antarctic Studies and Research.	U G	3
Concur: 5790.10.		
5797.11 Study at a Foreign Institution: Tanzania		
Three weeks of field studies in Tanzania.	U G	3
Prereq: 5790.11.		
6000 Research in Environment and Natural Resources		
The use of science and research to address natural resource problems; development of a thesis proposal.	G	2
Au Sem. Prereq: Grad standing. Not open to students with credit for 800. This course is graded S/U.		
6193 Individual Studies in Environment and Natural Resources		
Individual Studies in Environment and Natural Resources.	G	1 - 3
Au, Sp, Su Sem. May Term. Prereq: Permission of instructor. Not open to students with 9 cr hrs for 6193 (693). Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.		
6194 Advanced Group Studies		
Group studies on the science and discipline of environmental and natural resources encompassed in various developing and special topics.	G	1 - 3
Au, Sp Sems. Prereq: Permission of instructor. Not open to students with 6 cr hrs or 2 completions for 894. Repeatable to a maximum of 6 cr hrs or 2 completions.		
6610 Soil and Environmental Biochemistry		
Soil biochemical techniques, elemental transformations, biologically active compounds, pesticide metabolism, and fate of genetic materials in soils.	G	2
Prereq: 3000.01 (300.01), Chem 231, or Biochem 511, or Grad standing. Not open to students with credit for 761.		
7191 MENR Internship		
Internship experience for Master of Environment and Natural Resources (MENR) program.	G	3
Prereq: Enrollment in the Master of Environment and Natural Resources program.		
7333 Successional Dynamics of Forests		
Analysis of past development of forest stands; examination of major processes causing changes over time in communities of trees. One or more all-day field trips.	G	3
* Sp Sem (odd yrs). Prereq: Grad standing, and permission of instructor. Not open to students with credit for 733.		
7380 Climate and Society		
Examines links between climatic changes and human societies and examines social influences on our current state of knowledge, impacts, and potential responses.	G	3
Au Sem. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 738.		
7400 Communicating Environmental Risk		
Introduction to the design and implementation of public-focused risk communication as it relates to environmental, agricultural and public health contexts.	G	3
Sp Sem. Prereq: Grad standing, or permission of instructor.		
7520 Environmental Science and Law		
Introduction to the common and statutory law and administration of environmental protection, with special emphasis on scientific and technological aspects.	G	3
Au Sem. 2 1.5-hr cl. Prereq: ENR 4000 (400), or grad standing, or permission of instructor. Not open to students with credit for 752.		
7530 Soil Mineralogy		
Theory and application of methods for analyzing minerals in soil environments, including X-ray, thermal, and wet chemical techniques.	G	3
2 1-hr cl, 1 3-hr lab. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 753.		

7888 MENR Project	G	1 - 3
Conducting and reporting MENR applied science project.		
Prereq: Grad standing, and permission of advisor. Not open to students with 9 cr hrs for 7888 (893). Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.		
7981 MENR Seminar		
Environmental professional practice-oriented seminars and forums.	G	1
Prereq: Enrollment in the Master of Environment and Natural Resources (MENR) program. This course is graded S/U. Repeatable to a maximum of 4 cr hrs.		
8150 Advanced Environment, Risk and Decision Making		
Theory of individual and participatory risk-based decision making and applications to improve decision making in environmental and other risk-based management contexts.	G	3
Sp Sem. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 815.		
8400 Human Dimensions of Ecosystems Management		
Provides an overview of interdisciplinary theories and frameworks for understanding and addressing environmental problems and natural resources management issues.	G	2
Au Sem. Prereq: Grad standing. Not open to students with credit for 840.		
8600 Introduction to R for Environmental Sciences		
Hands-on course intended to give students a broad overview and introduction to R, a language and environment for statistical computing and graphics.	G	2
8780 Quantitative Methods for Environment and Natural Resources		
Multivariate statistical methods used by natural resource scientists to study environmental relationships of plants and animals. Analytical methods are explained with real Forestry, Fisheries, and Wildlife data sets.	G	3
* Sp Sem (even years). Prereq: Stat 5302 (530) or equiv, and Grad standing; or permission of instructor. Not open to students with credit for 822.		
8785 Research Paradigms		
An examination of research paradigms and techniques used in the disciplines involved in natural resource science and management.	G	3
* Sp Sem (odd years). Prereq: Doc standing, or permission of instructor. Not open to students with credit for 985.		
8890.01 Fisheries and Wildlife Science Seminar		
Seminar on special topics in fisheries and wildlife science in environment and natural resources.	G	1 - 12
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.		
8890.02 Ecological Restoration Seminar		
Seminar on special topics in ecological restoration in environment and natural resources.	G	1 - 12
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.		
8890.03 Ecosystem Science Seminar		
Seminar on special topics in ecosystem science in environment and natural resources.	G	1 - 12
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.		
8890.04 Soil Science Seminar		
Seminar on special topics in soil science in environment and natural resources.	G	1 - 12
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.		
8890.05 Forest Science Seminar		
Seminar on special topics in forest science in environment natural resources.	G	1 - 12
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.		
8890.06 Environmental Social Sciences Seminar		
Seminar on special topics in environmental social sciences in environment and natural resources.	G	1 - 12
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.		
8890.07 Rural Sociology Seminar		
Seminar on special topics in rural sociology in environment and natural resources.	G	1 - 12
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.		
8897 Research Proposal Symposium		
A symposium for graduate students to present thesis and dissertation proposals. Arr.	G	1
Sp Sem. Prereq: Grad standing. Not open to students with 2 cr hrs or 2 completions for 897. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.		
8980 Environment and Natural Resources Seminar		
Required seminar for all MS and PhD graduate students in environment and natural resources.	G	1
Au, Sp Sems. Prereq: Grad standing. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.		

196 Environment and Natural Resources

8998 Research

G 1 - 15

Research for thesis or dissertation purposes only.

Au, Sp, Su Sems. Prereq: Grad standing. Repeatable. This course is graded S/U.

Environmental Engineering

2090 Professional Aspects of Civil and Environmental Engineering

U 1

Topics in Civil and Environmental Engineering ethics and practice. Must be taken as soon as possible upon entering major.

Prereq: CivilEn or EnvEng major. Not open to students with credit for 460 or CivilEn 460.

Cross-listed in CivilEn.

2100 Environmental Engineering Analytical Methods

U 3

Application of analytical methods to calculate, measure and interpret chemical characteristics of water, soil, and air.

Prereq: Chem 1220 (122) or 1250 (125), and enrollment in CivilEn major or EnvEng major or minor. Not open to students with credit for 610.

2193 Individual Studies in Environmental Engineering

U 1 - 5

Individual conferences, assigned readings, and reports on minor investigations.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

2194 Group Studies in Environmental Engineering

U 1 - 5

Provides groups of students opportunities to pursue special studies not otherwise offered.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

3080 Economic Evaluation and Optimization in Civil and Environmental Engineering

U 3

Fundamentals of engineering economics and optimization for civil and environmental engineering planning and design.

Prereq or concur: CivilEn 2060 (406), and enrollment in CivilEn or EnvEng major. Not open to students with credit for 576 or CivilEn 576. Cross-listed in CivilEn.

3200 Fundamentals of Environmental Engineering

U 3

Quantitative assessment of water quality, air quality, and solid/hazardous waste management, with an emphasis on minimizing human health and environmental impacts through sustainable design.

Prereq: Chem 1220 (122) or 1250 (125), and CivilEn or EnvEng major or EnvEng minor. Not open to students with credit for 6200, 511, or CivilEn 511.

3210 Environmental Engineering Unit Operations

U 3

Selection and Design of Unit Operations and Processes used in Environmental Engineering.

Prereq: 413 or CivilEn 3130 (413), and Chem 1220 (122) or 1250 (125), or permission of instructor. Not open to students with credit for 520 or CivilEn 520.

3900 Environmental Engineering Process Development

U 1

Topics of special interest in environmental engineering process design. Studies in the analysis, design, testing, fabrication and construction of environmental engineering processes.

Prereq: Jr standing or above in Engineering, or permission of instructor. Repeatable to a maximum of 2 cr hrs.

4090 Environmental Engineering Capstone Design

U 3

Culminating design course for the Environmental Engineering program. Must be taken as close to graduation as possible.

Prereq: Sr standing. Not open to students with credit for 619.

4193 Individual Studies in Environmental Engineering

U 1 - 5

Individual conferences, assigned readings, and reports on minor investigations.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

This course is graded S/U.

4194 Group Studies in Environmental Engineering

U 1 - 5

Provides groups of students opportunities to pursue special studies not otherwise offered.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

4200 Environmental Engineering Unit Operations Lab

U 1

Laboratory measurements and analysis of environmental engineering treatment processes.

Prereq: 2100 (610) or CivilEn 610, and EnvEng 3210 (520) or CivilEn 520. Concur: 5110 (711). Not open to students with credit for 620.

4600 Assessment for Human Rights and Sustainability

U 3

Foundational concepts of human rights and environmental impacts pertaining to global supply chains. Regulations and voluntary standards in engineering-intensive sectors, including infrastructure, biofuels, electronics. Case study analysis of corporate assessment practices for labor rights protection and environmental impacts.

4998 Undergraduate Research in Environmental Engineering

U 1 - 5

Opportunity for undergraduate students to conduct research in Civil and Environmental Engineering.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4998H Undergraduate Research in Environmental Engineering

U 1 - 5

Supervised undergraduate honors research on various topics in Environmental Engineering.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4999 Environmental Engineering Research for Thesis

U 1 - 5

Supervised research and project work.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4999H Environmental Engineering Research for Thesis

U 1 - 5

Supervised research and project work arranged individually for honors students.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

5110 Environmental Engineering Bioprocesses

U G 3

Principles and design of biological processes in environmental engineering.

Prereq: 3200 (511), or Grad standing. Not open to students with credit for 711.

5120 Bioremediation of Groundwater and Soil

U G 3

An overview of biotechnology methods for remediation of groundwater and soils. Overview of theory and bio-remediation component design. Includes a study of the role of key microbial groups capable of transforming common contaminants in subsurface media with a particular emphasis on molecular genetic biotechnology methods to identify and document their ecology and metabolic condition.

Prereq: A course in Microbio; or Grad standing; or permission of instructor. Not open to students with credit for CivilEn 818.

5140 Air Quality Engineering

U G 3

This course introduces several concepts which will provide students with a basic knowledge of several air quality issues. We will first discuss sources and classifications of air pollutants, followed by a brief primer on relevant atmospheric science. Following this, we will focus on two aspects related to atmospheric chemistry: tropospheric ozone formation and secondary aerosol production.

Prereq: Chem 1220,1250, or equiv, and Math 2177, 2174, or 2415, and enrollment in CivilEn or EnvEng major; or Grad standing; or permission of instructor.

5170 Sustainability and Pollution Prevention Practices

U G 3

An introduction to concepts of sustainability and pollution prevention with particular application to solid waste generation, disposal and management.

Prereq: 3200 (511), or Grad standing, or permission of instructor. Not open to students with credit for 711.

5194 Group Studies in Environmental Engineering

U G 1 - 5

Provides groups of students opportunities to pursue special studies not otherwise offered.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

5195 Engineering Design for Environmental Health

U G 3

Students in this course will learn how to incorporate health information into the engineering design process. This material complements risk assessment by focusing on the design of engineering systems. Course will discuss balancing financial, health, performance, and other considerations. Quantitative analysis will be conducted in soil, water, air, buildings, and occupational health scenarios.

Prereq: Math 1151,1161.01, or 1161.02, and Chem 1210 or 1250, and enrollment in the CivilEn, EnvEng, or PubHEHS major program; or grad standing; or permission of instructor.

5210 Advanced Physical Chemical Treatment Processes

U G 3

Principles and design of physical and chemical processes for water and wastewater treatment including mixing, mass transfer, chemical kinetics, oxidation-reduction, disinfection, emerging contaminants, and water reuse.

Prereq: 3210 (520) or CivilEn 520, or Grad standing in Engineering or EarthSc, or permission of instructor. Not open to students with credit for CivilEn 810.

5217 Applied Mathematical Ecology

U G 3

Description and application of basic methods to model population, communities and the interactions between ecosystems and the earth system.

Prereq: CivilEn 2060 (406) or equivalent, and Engr 1221 or CSE 1221, and enrollment in CivilEn or EnvEng major; or Grad standing; or permission of instructor. Not open to students with credit for CivilEn 817.

5218 Measurement and Modeling of Climate Change, the Atmospheric Boundary Layer and Ecosystem Fluxes

U G 3

A study of the atmospheric boundary layer, its interaction with the land surface and vegetation in particular, and hand-on experience with micrometeorological and eddy-covariance instrumentation and data analysis.

Prereq: CivilEn 2060 or equiv, and Engr 1221 or CSE 1221, and enrollment in the CivilEn or EnvEng major program; or Grad standing; or permission of instructor.

5310 Ecological Engineering and Science

U G 4

Definition of ecosystems, ecosystem restoration, global warming issues. Practice of ecological engineering, and the utilization of natural processes to provide societal services.

Prereq: Jr standing or above. Not open to students with credit for 618, ENR 5222 (618), or FABEng 5310 (618). This course is available for EM credit. Cross-listed in ENR 5222 and FABEng 5310.

Environmental Engineering 197

5410	Hazardous Waste Management and Remediation	U G	2
Environmental regulations; handling of hazardous wastes; risk assessment; site remediation processes; remedial alternatives; implementation; case studies.			
Prereq: 3200 and CivilEn 3130, or Grad standing; or permission of instructor. Not open to students with credit for 714.			
5430	Principles of Risk Assessment	U G	3
Basic methodologies for quantitative risk assessment and applications to a variety of contaminants and pathways.			
Prereq: 3200 (511), or Grad standing in Engineering, EarthSc, or ENR, or permission of instructor. Not open to students with credit for 720 or PubHEHS 7365 (831). Cross-listed in PubHEHS 7365.			
5600	Science, Engineering, and Public Policy	U G	3
Presents a history of the interactions between science, engineering, and public policy in the United States and in the context of global concerns (e.g. climate change, competitiveness), inquire into how various federal government, universities, & corporations conduct & fund science and engineering & explore how public sector interests & processes influence sci, engr & public policy.			
Prereq: Jr, Sr, or Grad standing; or permission of instructor. Cross-listed in PubAfrs.			
5850	Advanced Topics in Environmental Engineering	U G	1 - 3
Exploration of advanced topics in Environmental Engineering.			
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.			
5880	Environmental Engineering Seminar	U G	1
Seminar course which presents current research findings on Environmental Engineering and science.			
Prereq: Jr, Sr, or Grad standing in Environmental Engineering, and permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.			
6100	Environmental Engineering Analytical Methods	G	3
Application of analytical methods to calculate, measure and interpret chemical characteristics of water, soil, and air.			
Prereq: Chem 1220 (122) or 1250 (125), or Grad standing. Not open to students with credit for 2100 (610) or CivilEn 610.			
6193	Individual Studies in Environmental Engineering	G	1 - 5
Individual conferences, assigned readings, and reports on minor investigations.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			
6194	Group Studies in Environmental Engineering	G	1 - 5
Provides groups of students opportunities to pursue special studies not otherwise offered.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
6200	Fundamentals of Environmental Engineering	G	3
Quantitative assessment of water quality, air quality, and solid/hazardous waste management, with an emphasis on minimizing human health and environmental impacts through sustainable design.			
Prereq: Chem 1220 (122) or 1250 (125), or Grad standing, or permission of instructor. Not open to students with credit for 3200 (511) or CivilEn 511.			
6210	Environmental Engineering Unit Operations	G	3
Selection and Design of Unit Operations and Processes used in Environmental Engineering.			
Prereq: 413 or CivilEn 3130 (413), and Chem 1220 (122) or 1250 (125); or Grad standing; or permission of instructor. Not open to students with credit for 3210 (520) or CivilEn 520.			
6220	Data Analysis in Environmental Engineering	G	3
Application of programming and statistical methods for engineering data analysis. Will explore distribution, variance, and multivariate methods. Will provide a deeper understanding of analysis theories in the space, time, and spectral domain. Students will develop computer programming toolboxes and theoretical skills for analyzing and modeling data in their own research.			
Prereq: Stat 3450, 3460, 3470, or CivilEn 2050, or equiv; and Grad standing in the Civil Engineering or Environmental Science Graduate programs.			
6600	Assessment for Human Rights and Sustainability	G	3
Foundational concepts of human rights and environmental impacts pertaining to global supply chains. Regulations and voluntary standards in engineering-intensive sectors, including infrastructure, biofuels, electronics. Case study analysis of corporate assessment practices for labor rights protection and environmental impacts.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4600.			
6999	Environmental Engineering Research Thesis	G	1 - 15
Research for thesis purposes only.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is progress graded (S/U).			
7220	Colloidal and Interfacial Processes in Aquatic Systems	G	3
Fundamental concepts of the chemistry of the solid-water interface, adsorption/desorption, coagulation, and deposition in natural and engineered systems.			
Prereq: 2100 (610), or Grad standing, or permission of instructor. Not open to students with credit for both CivilEn 819 and 822.			

8193	Individual Studies in Environmental Engineering	G	1 - 5
Individual conferences, assigned readings, and reports on minor investigations.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			
8194	Group Studies in Environmental Engineering	G	1 - 5
Provides groups of students opportunities to pursue special studies not otherwise offered.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
8998	Graduate Research in Environmental Engineering	G	1 - 15
Opportunity for graduate students to conduct research in Environmental Engineering.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.			
8999	Environmental Engineering Research Dissertation	G	1 - 15
Research for dissertation purposes only.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is progress graded (S/U).			

Environmental Science

6193	Individual Studies in Environmental Sciences	G	1 - 12
Afford the qualified student the opportunity for independent reading, study, practical experience, or laboratory work in specialized field of interest.			
Au, Sp, Su Sems. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.			
6194	Group Studies	G	1 - 5
Group studies in environmental sciences.			
Au, Sp, Su Sems. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.			
7899	Current Issues in Environmental Sciences	G	1
Graduate seminar where faculty from within and outside the University and graduating students will present their research.			
Au, Sp Sems. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.			

Environmental Sciences Technology

1201T	Exploring Environmental Sciences	U	1/2
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.			

Evolution, Ecology and Organismal Biology

1910	Introduction to Biological Studies- Local Plants (Stone Lab)	U	2
Structures, processes, and stages of the plant life cycle; common families of flowering plants; plant geography, ecology, and conservation; and uses of plants. 1-wk course available summer session at Stone Lab.			
Prereq: Completion of high school Biology course. Not open to students with credit for 110.			
1920	Introduction to Biological Studies - Birds (Stone Lab)	U	2
An introductory course for students interested in ornithology including bird identification, behavior, and ecology, with an emphasis on field and laboratory techniques. 1-wk course available summer session at Stone Lab.			
Prereq: Completion of high school Biology course. Not open to students with credit for 126.			
1930	Introduction to Biological Studies - Aquatic Biology (Stone Lab)	U	2
An introduction to the organisms of the ecosystem in freshwater aquatic environments. 1-wk course available summer session at Stone Lab.			
Prereq: Completion of high school Biology course. Not open to students with credit for 125.			
2210	Biodiversity of Ohio - Plants	U	2
A lecture and field course in identifying common Ohio plants; emphasis on taxonomic principles, use of keys and manuals, and field recognition of plants; includes some Saturday field trips.			
Prereq: 4 sem cr hrs in Biological Sciences. Not open to students with credit for 210. NS Admis Cond course.			
2220	Biodiversity of Ohio - Birds	U	2
The general biology of birds with emphasis on their natural histories and field identification of local species.			
Prereq: 4 sem cr hrs in Biological Sciences. Not open to students with credit for 322.			
2250	Dynamics of Dinosaurs	U	2
A review of current information on dinosaur biology, emphasizing scientific approaches to reconstructing dinosaurs as living, dynamic animals.			
Prereq: 4 sem cr hrs in Biological Sciences or Historical Geology.			

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2270	Parasites and Evolution: How Worms, Mosquitoes, etc. Manage Their/Our World	U	2	3494	Entering Independent Research	U	3
	Introduction to life history of and pathology caused by a number of parasites of invertebrates and vertebrates (including humans). Parasites and disease vectors are used to illustrate broad evolutionary and ecological concepts.			Designed to equip students in the Natural and Mathematical Sciences with necessary skills to become independent researchers. The main emphasis is given to experimental methods, experimental and quasi-experimental design, hypothesis testing, sampling, research ethics, basic statistics, and presentation of data.			
	Prereq: 4 sem cr hrs in Biological Sciences.			Prereq: Not open to students with Sr standing.			
2410	Biological Invasions: The Ecology and Evolution of Species Introductions	U	3	3498	Undergraduate Research in Behavioral Ecology	U	4
	Invasion ecology is the study of introduced, non-native species and the factors that sometimes lead to their population explosions and negative ecological impacts in the new region. This course will make explicit connections between fundamental concepts in ecology and evolutionary biology, topics specific to invasion ecology, and the idiosyncratic details surrounding particular invasive species.			Supervised independent research opportunities in behavioral ecology for undergraduates considering careers in basic scientific research, secondary education, or graduate research programs in biological and behavioral sciences. Formal instruction on experimental research design, literature review, research ethics, and elementary statistical analyses.			
	Prereq: One course in Life Sciences (or a related field), or permission of instructor.			Prereq: Biology 1113, 1113H, 1114, 1114H, or Soph standing or above; or permission of instructor.			
2510	Human Anatomy	U	3	3510	Cellular and Developmental Biology	U	3
	An introduction to human anatomy; small mammal dissection.			Introduction to the structure and function of animal cells, and to patterns of early development in vertebrates and invertebrates.			
	Prereq: 3 sem cr hrs in Biological Sciences. Not open to students with credit for 235. GE nat sci bio course. NS Admis Cond course.			Prereq: 3310, and Biology 1113 or 1113H. Not open to students with credit for 415 and MolGen 5602.			
2520	Human Physiology	U	3	3520	Microscopic Anatomy	U	3
	A survey of the human nervous system, sense organs, muscle function, circulation, respiration, digestion, metabolism, kidney function, and reproduction.			Examination and analysis of the functional morphology of cells and tissues of vertebrate animals, with emphasis on mammalian histology.			
	Prereq: 3 sem cr hrs in Biological Sciences. Not open to students with credit for 232. GE nat sci bio course. NS Admis Cond course.			Prereq: Biology 1113 (113), 1114 (114), 1113H (115H), or 1114H (116H).			
3189	Undergraduate Field Experience or Work	U	1 - 3	3798	Undergraduate Study Tour	U	1 - 12
	Field work or experience.			Undergraduate study tour.			
	Prereq: 8 cr hrs in Biological Sciences. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is progress graded S/U.			Prereq: 8 sem cr hrs in Biological Sciences, and permission of instructor. Not open to students with credit for 698. This course is graded S/U.			
3191	Undergraduate Internship	U	1 - 3	4210	Focused Study of Ecology and Evolution - Vertebrates	U	2
	Internship held as undergraduate for credit.			Analysis of the anatomical, physiological, behavioral, and ecological characteristics of the major vertebrate groups.			
	Prereq: 8 cr hrs in Biological Sciences, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is graded S/U.			Prereq: 3410. Not open to students with credit for 470.			
3193	Undergraduate Individual Studies	U	1 - 3	4220	Focused Study of Ecology and Evolution - Mammals	U	3
	Individual work in the field of the chosen problem.			Mammals of the world, their natural history, distribution, taxonomy, and major anatomical and physiological adaptations; study of local species emphasized in lab.			
	Prereq: 8 cr hrs in Biological Sciences. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is graded S/U.			Prereq: 3310.			
3194	Undergraduate Group Studies	U	1 - 3	4230	Focused Study of Ecology and Evolution - Invertebrates	U	2
	Study of selected topics in evolution, ecology and organismal biology.			Analysis of the anatomical, physiological, behavioral and ecological characteristics of the major invertebrate groups.			
	Prereq: 8 cr hrs in Biological Sciences. Repeatable to a maximum of 12 cr hrs or 3 completions.			Prereq: 3310.			
3310.01	Evolution	U	4	4240	Focused Study of Ecology and Evolution - Plants and People	U	3
	Basic conceptual issues and processes in evolution with an emphasis on the ecological basis of adaptation and consequences of natural selection. Also available summer term at Stone Lab.			Overview of the importance of plants to humans. Students will gain an understanding of the interrelations between humans and plants, including plant domestication, history and uses of spices and flavorings derived from plants, as well as non-food uses of plants. Recommended prereq: previous or concurrent enrollment in EEOB 2210.			
	Prereq: Biology 1114 or 1114H, or permission of instructor. Not open to students with credit for 3310 or 3310.02.			Prereq: 1 course in Biological Sciences (Plant Biology Preferred). Not open to students with credit for 502.			
3310.02	Evolution (Hybrid Online)	U	4	4410	Conservation Biology	U	3
	This course surveys the many processes that underlie biological evolution and illustrates the patterns they generate, with a focus on adaptation, types of selection, population genetics, species interactions and biodiversity. This course is presented in a hybrid online format.			Application of ecology, population genetics, and biogeography to the study and conservation of biodiversity, threatened communities, and endangered species.			
	Prereq: Biology 1114 or 1114H, or permission of instructor. Not open to students with credit for 3310 or 3310.01.			Prereq: 3310 and 3410, or permission of instructor. Not open to students with credit for 661.			
3310H	Honors Evolution	U	4	4420H	Tropical Field Studies	U	3
	Basic conceptual issues and processes in evolution with an emphasis on the ecological basis of adaptation and consequences of natural selection. Also available summer term at Stone Lab.			Study abroad course in Costa Rica focusing on the diversity, biotic interactions, and effects of the environment in tropical communities, and humans in the tropics. Includes opportunities for research in tropical systems.			
	Prereq: Honors standing, and Biology 1114 (114) or 1114H (114H), and MolGen 4500 (500), 4500H (500H), or 501; or permission of instructor. Not open to students with credit for 400H.			Prereq: Honors standing, and 3310 or 3410; or permission of instructor. Not open to students with credit for 557H.			
3320	Organismal Diversity	U	3	4430	Ecological Methods I	U	1 - 2
	A survey of organismal diversity and the evolutionary relationships between and within major groups of organisms. Class is laboratory based.			Hands-on course for learning basic field and quantitative methods for ecological studies.			
	Prereq: 3310. Not open to students with credit for 405.01 and 405.02.			Prereq: 3410. Repeatable to a maximum of 8 cr hrs or 4 completions.			
3410	Ecology	U	4	4510	Comparative Vertebrate Anatomy	U	3
	Distribution and abundance of species, population dynamics, community ecology, ecosystem dynamics, and applied perspectives. Also available summer term at Stone Lab.			Evolutionary trends within vertebrates will be revealed through a study of anatomical homology across representative taxa. Concepts will be expanded upon as students explore the hands-on methods of comparative anatomical study, including dissection and skeletal staining.			
	Prereq: Biology 1114 or 1114H, or permission of instructor. Not open to students with credit for 503.01, 503.02, and 503.03.			Prereq: 2 courses in Biological Sciences.			
3420	Behavioral Ecology	U	4	4520	Comparative Physiology	U	3
	Comparative study of animal behaviors, and analysis of their adaptive value, physiological mechanisms, development, and evolution, within their ecological and social context. Also available summer session at Stone Lab.			Functional systems in invertebrates and vertebrates: respiration, circulation, water, ion, and energy balance; communication; locomotion; and reproduction.			
	Prereq: Biology 1114 or 1114H, or permission of instructor. Not open to students with credit for 440, 620, 730, or 740.			Prereq: Biology 1114 or 1114H, and 1 additional course in Biological Sciences. Not open to students with credit for 410.			
4550	Neurobiology of Behavior	U	3				
	Integration of studies of sensory, integrative and motor systems with evolution and ecology.			Prereq: 2 courses in Biological Sciences. Not open to students with credit for 632.			

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4560 Comparative Endocrinology	U 2	5430 Fish Ecology	U G 3
Introduction to hormones and hormone action; comparison between vertebrates and invertebrates with emphasis on special situations such as metamorphosis. Prereq: 4520 and Biochem 4511, or equiv, or permission of instructor. Not open to students with credit for 550 or Entomol 550. Cross-listed with Entomol 550.		Lecture emphasis on the behavior, migration, distribution, and evolution of fish; laboratory emphasis on ecological and systematic ichthyology. Lab fee required. Prereq: 3410, or Grad standing, or permission of instructor. Not open to students with credit for 621 and 626.	
4910 Plant Biology for Teachers (Stone Lab)	U 2	5450 Population Ecology	U G 3
Basic botanical and identification skills, field experience, and preparation of lessons for classroom use with special attention given to ODE Academic Content Standards. 1-wk course available summer session at Stone Lab. Prereq: Enrollment in Education major, and Jr standing or above, or permission of instructor. Not open to students with credit for 511 or 2210.		Quantitative study of the concepts, methods, and applications of population ecology. Prereq: 3410, or Grad standing. Not open to students with credit for 671.	
4920 Ornithology for Teachers (Stone Lab)	U 2	5460 Physiological Ecology	U G 3
Field and laboratory studies of birds, discussion of birds of the world and their classification with resource material for classroom teachers and other educators. 1-wk course available summer session at Stone Lab. Prereq: Enrollment in Education major, and Jr standing, or permission of instructor. Not open to students with credit for 522 or 2220.		Study of the physiological adjustment, tolerance, and acclimatization to the abiotic and biotic environment by animals and plants. Prereq: 3410, or Grad standing. Not open to students with credit for 654.01 and 674.	
4930 Stream Ecology for Teachers (Stone Lab)	U 2	5470 Community and Ecosystem Ecology	U G 3
Introduces high school teachers to concepts and methodology of stream ecology. 1-week course available summer session through Stone Lab at Old Woman Creek, Huron, Ohio. Free lodging: students provide their own meals. Prereq: Enrollment in Education major, and Jr standing or above, or permission of instructor. Not open to students with credit for 785.		A quantitative and descriptive approach to the establishment, development, succession, and dynamics of communities and their interrelations with historic, climatic, soil, and biotic factors. Prereq: 3410, or Grad standing. Not open to students with credit for 700 or 720.	
4950 Field Ecology (Stone Lab)	U 2	5798 Tropical Behavioral Ecology and Evolution	U G 3
Field-based introduction to the distribution and abundance of animals and plants in pond, lake, river, marsh, beach, field, and woodland ecosystems for teachers, undergraduates and graduate students. 1-wk course available summer session at Stone Lab. Prereq: 12 sem cr hrs of Biological Sciences, and GPA 2.5 or above, and Jr standing or above, or permission of instructor. Not open to students with credit for 513.		Focus on the evolutionary processes that shape the ecology and behavior of invertebrate systems in a diverse tropical forest with a special emphasis on symbioses. Students will build skills in proposal writing, experimental design, and field research conducted at the world renowned Smithsonian Tropical Research Institute in Panama. Prereq: 3193 (Adams) or 8896.02 (Adams). Repeatable to a maximum of 12 cr hrs. This course is graded S/U.	
4990 Undergraduate Seminar in Mathematical Biology Research	U 1	5890 General Acarology	U G 2
Seminar on research in mathematical biology and its applications, with an emphasis on evolutionary biology, ecology, neuroscience, and cell biology. Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U. Cross-listed in Math.		An introduction to the morphology, development, and general biology of mites. Laboratory consists of a taxonomic review of the families of Acari. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs.	
4998 Undergraduate Research	U 1 - 12	5910 Evolution and Ecology of Reptiles and Amphibians	U G 2
Undergraduate research in evolution, ecology, and organismal biology. Prereq: 2 courses in Biological Sciences, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is graded S/U.		Study of the evolution and ecology of reptiles and amphibians, with emphasis on the fauna of Ohio. Prereq: 12 sem cr hrs of Biological Sciences, and GPA 2.5 or above, and Jr standing or above, or permission of instructor. Not open to students with credit for 622.	
4998H Undergraduate Research - Honors	U 1 - 12	5911 Tropical Herpetology	U G 4
Honors undergraduate research in evolution, ecology, and organismal biology. Prereq: Honors standing, and 2 courses in Biological Sciences, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is graded S/U.		Field course on the study of reptiles and amphibians, with emphasis on tropical species identification, field techniques and methods, population ecology, and conservation strategies. Course will be conducted at a tropical field site such as the Biological Field Station El Zota, Tapezco, Costa Rica. Prereq: GPA of 2.5 or above, completion of 12 semester cr hrs of biological sciences, and Jr standing or above or autumn of enrollment; or permission of instructor.	
4999 Undergraduate Thesis Research	U 1 - 12	5920 Field Biology of Aquatic and Wetland Plants (Stone Lab)	U G 3 - 4
Undergraduate research towards a thesis in Evolution and Ecology, or Zoology. Prereq: 8 cr hrs in Biological Sciences, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is graded S/U.		Aquatic plants of the Great Lakes region. Field and laboratory work on their identification and ecological and geographical relations. Available summer session at Stone Lab. Prereq: GPA 2.5 or above, and Jr standing or above, and 12 sem cr hrs in Biological Sciences; or permission of instructor. Not open to students with credit for 611.	
4999H Undergraduate Thesis Research - Honors	U 1 - 12	5930 Ichthyology (Stone Lab)	U G 3 - 4
Undergraduate research towards an honors thesis in Evolution and Ecology, or Zoology. Prereq: Honors standing, and 8 cr hrs in Biological Sciences, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is graded S/U.		Study of the distribution and classification of fishes, which includes methods of identification, collection, and preservation. Available summer session at Stone Lab. Prereq: GPA 2.5 or above, and Jr standing or above, and 12 sem cr hrs in Biological Sciences; or permission of instructor. Not open to students with credit for 621.	
5210 Spider Biology - Stone Lab	U G 2	5940 Field Zoology (Stone Lab)	U G 3 - 4
Study of the biology of spiders including functional anatomy, behavior, webs and web-building, field and lab methods, identification, and ecology. 1-wk course available summer term at Stone Lab. Special fees assessed. Prereq: GPA 2.5 or above, and completion of 12 sem cr hrs of biological sciences, and Jr standing or above; or permission of instructor.		Field and laboratory identification of aquatic and terrestrial vertebrates and invertebrates of the region, in relation to habitats occupied. Available summer session at Stone Lab. Prereq: GPA 2.5 or above, and Jr standing or above, and 12 sem cr hrs in Biological Sciences; or permission of instructor. Not open to students with credit for 651.	
5310 Advanced Principles of Evolution	U G 3	5950 Algae Identification Workshop (Stone Lab)	U G ½
Origin of variation in plants and animals with an emphasis on evolutionary processes. Prereq: 3310, or Grad standing. Not open to students with credit for 673.		Hands-on workshop on collection, identification, preservation, enumeration, control techniques, and basic ecology of algae. Counts toward EPA certification for water professionals. 2-day course available summer session at Stone Lab. Prereq: 8 cr hrs in Biological Sciences, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.	
5320 Society and Evolution	U G 3	5960 Plankton Identification Workshop (Stone Lab)	U G ½
Philosophical and historical survey of the social conflict of scientific and religious perspectives on origins. Prereq: 3310, or Grad standing. Not open to students with credit for 710.		Hands-on workshop on collection, identification, preservation, enumeration, control techniques, and basic ecology of plankton. Counts toward EPA certification for water professionals. 2-day course available summer session at Stone Lab. Recommended for managers or employees of public water supplies (reservoirs, lakes, and rivers), or federal, state, or city employees charged with monitoring water quality. Prereq: 8 sem cr hrs of Biological Sciences, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.	
5410 Aquatic Ecosystems - Ocean Ecology	U G 1½	5970 Larval Fish Identification Workshop (Stone Lab)	U G ½
Diversity and distribution of marine organisms; population dynamics, productivity, and structure of marine ecosystems; human impact on ocean resources. Prereq: 3410, or Grad standing. Not open to students with credit for 505.		Workshop on the techniques involved with the collection and identification of common larval fishes of the Lake Erie drainage basin. 1-day course available summer session at Stone Lab. Prereq: 12 sem cr hrs of Biological Sciences, and GPA 2.5 or above, and Jr standing or above, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.	
5420 Aquatic Ecosystems - Ecology of Inland Waters	U G 1½ - 4		
A study of the physical, chemical, and biological factors influencing the biological productivity of inland waters, and of techniques and equipment used in evaluating them. Also available summer session at Stone Lab. Prereq: 3410, or Grad standing, or permission of instructor. Not open to students with credit for 647 and 655.			

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6193	Graduate Individual Studies	G	1 - 3	8896.04	EEOB Graduate Seminar: Ecology	G	1 - 2
	Individual work in the field of the chosen problem.				Current topics in general ecology as related to evolution, ecology, and organismal biology.		
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 8 completions. This course is graded S/U.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
6194	Graduate Group Studies	G	1 - 3	8896.05	EEOB Graduate Seminar: Evolution	G	1 - 2
	Group work in the field of the chosen problem.				Current topics in evolution as related to evolution, ecology, and organismal biology.		
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
6210	Ecotoxicology	G	2 - 4	8896.06	EEOB Graduate Seminar: Marine Biology	G	1 - 2
	Technical examination of the environmental fate and toxicity of organic xenobiotics, inorganics, and metals; emphasis on chemistry of interactions with physical environment, fugacity models, risk assessment, and predictive toxicology.				Current topics in marine biology as related to evolution, ecology, and organismal biology.		
	Prereq: 3410, or Chem 2510 and 2520 or equiv, or Grad standing, or permission of instructor. Not open to students with credit for Entomol 762.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
6310	Molecular Evolution	G	3	8896.07	EEOB Graduate Seminar: Wildlife Biology	G	1 - 2
	The genetic basis of evolution and the molecular mechanisms of evolution.				Current topics in wildlife biology as related to evolution, ecology, and organismal biology.		
	Prereq: 3310, 5310, MolGen 4500, 5606, or equiv. Not open to students with credit for 640 or MolGen 640.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
6320	Principles of Systematics	G	3	8896.08	EEOB Graduate Seminar: Fisheries Biology	G	1 - 2
	A study of the principles and techniques used in the identification, classification, and nomenclature of organisms.				Current topics in fisheries biology as related to evolution, ecology, and organismal biology.		
	Prereq: 12 sem cr hrs in EEOB at the 3000-level or above, or permission of instructor. Not open to students with credit for 861.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
6330	Phylogenetic Methods	G	4	8896.09	EEOB Graduate Seminar: Ecotoxicology	G	1 - 2
	Methods for phylogenetic analysis: cladistics, maximum likelihood, Bayesian approaches; character coding and data management.				Current topics in ecotoxicology as related to evolution, ecology, and organismal biology.		
	Prereq: Permission of instructor. Not open to students with credit for 626.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
6999	Research for Thesis	G	1 - 12	8896.10	EEOB Graduate Seminar: Systematics	G	1 - 2
	Research for masters thesis.				Current topics in systematics as related to evolution, ecology, and organismal biology.		
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
7210	Molecular Methods in Evolution and Ecology	G	1	8896.11	EEOB Graduate Seminar: Population Ecology	G	1 - 2
	Hands-on course for learning the use of molecular markers in evolutionary and ecological studies.				Current topics in population ecology as related to evolution, ecology, and organismal biology.		
	Prereq: 3310 or 3410, and 8 additional sem cr hrs of coursework in EEOB; or Grad standing. Not open to students with credit for 713.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
7220	Modeling in Evolutionary Ecology	G	4	8896.12	EEOB Graduate Seminar: Molecular Ecology	G	1 - 2
	Optimization models in evolutionary ecology, including dynamic optimization, evolutionary game theory, and adaptive dynamic models.				Current topics in molecular ecology as related to evolution, ecology, and organismal biology.		
	Prereq: Permission of instructor. Not open to students with credit for 714.01 and 714.02.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
7890	Agricultural Acarology	G	4	8896.13	EEOB Graduate Seminar: Physiological ecology	G	1 - 2
	An intensive review of mites associated with crops, ornamental plants, and stored food products with emphasis on taxonomy and ecology of these animals.				Current topics in physiological ecology as related to evolution, ecology, and organismal biology.		
	Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
7891	Medical-Veterinary Acarology	G	4	8896.14	EEOB Graduate Seminar: Aquatic Ecology	G	1 - 2
	The mites associated with humans, domestic animals, and wildlife, stressing their ecology and behavior in relation to transmission of viral, rickettsial, bacterial, and protozoan diseases.				Current topics in aquatic ecology as related to evolution, ecology, and organismal biology.		
	Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
7892	Soil Acarology	G	6	8896.15	EEOB Graduate Seminar: Population Genetics	G	1 - 2
	Taxonomy, ecology, and life-history of mites associated with soil and litter.				Current topics in population genetics as related to evolution, ecology, and organismal biology.		
	Prereq: 5890 (Entomol 670), and Biology 1114 (116) or 1114H (116H); or permission of instructor. Repeatable to a maximum of 12 cr hrs.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
8194	Graduate Group Studies	G	1 - 3	8896.17	EEOB Graduate Seminar: Invertebrate Zoology	G	1 - 2
	Group work in the field of a chosen problem.				Current topics in invertebrate zoology as related to evolution, ecology, and organismal biology that vary with the interests of the students and instructor.		
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
8894	EEOB Graduate Student Seminar	G	1 - 2	8896.18	EEOB Grad Seminar: Behavioral Ecology	G	1 - 2
	Required of all graduate students in evolution, ecology, and organismal biology during first Autumn semester of registration.				Current topics in behavioral ecology as related to evolution, ecology, and organismal biology.		
	Repeatable to a maximum of 4 cr hrs or 2 completions. This course is graded S/U.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
8896.01	EEOB Graduate Seminar: Anatomy and Physiology	G	1 - 2	8896.19	EEOB Grad Seminar: Current Topics in Quantitative Methods	G	1 - 2
	Current topics in anatomy and physiology as related to evolution, ecology, and organismal biology.				Current topics in quantitative methods as related to evolution, ecology, and organismal biology.		
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
8896.02	EEOB Graduate Seminar: Behavior	G	1 - 2	8896.20	Women in Science	G	1
	Current topics in behavior as related to evolution, ecology, and organismal biology.				In this seminar course, participants will read key papers concerning the status of women in the STEM disciplines (Science, technology, engineering, and mathematics).		
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.				Prereq: Grad standing, or permission of instructor. This course is graded S/U. Cross-listed in WGSSt.		
8998	Graduate Research			8998	Graduate Research	G	1 - 12
	Graduate research.				Graduate research.		
	Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 65 cr hrs or 18 completions. This course is graded S/U.				Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 65 cr hrs or 18 completions. This course is graded S/U.		

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8999 Research for Dissertation

G 1 - 12

Research for dissertation.

Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 27 cr hrs or 12 completions. This course is graded S/U.

Exploration

1100.01 University Exploration Survey

U 1

Introduction to the process of decision making and exploring majors at Ohio State; introduction to university community; strategies for successful transition to and participation in that community; university resources and procedures.

Prereq: Fresh standing in Exp, and permission of instructor. Not open to students with credit for 100.01, 100.01H, 100.02, or 100.03.

1100.01E University Exploration Honors Survey

U 1

Introduction to the process of decision making and exploring majors at Ohio State; introduction to university community; strategies for successful transition to and participation in that community; university resources and procedures.

Prereq: Fresh standing in Exp, and permission of instructor. Not open to students with credit for 100.01, 100.01H, 100.02, or 100.03.

1100.01H Exploration Survey

U 1

University survey class for new freshmen honors students.

Prereq: First year student in Exp or permission of instructor. Not open to students with credit for 100.01, 100.01H, 100.02 or 100.03.

1100.02 University Exploration Survey

U 1

Introduction to the processes of decision making and exploring majors at Ohio State; introduction to the university community; strategies for success transition to and participation in that community; university resources and procedures.

Prereq: Transfer student in EXP, and permission of instructor. Not open to students with credit for a university survey course from another college or with credit for: 1100.01 (100.01), 1100.01H (100.01H), 100.02, 100.03, USAS 100, 100.11, or 100.21.

1500 Student Tech for Academic Success

U 3

This course is designed to help students with the transition from high school to college level academics by improving study skills, regulating academic behaviors and continuing personal development. This course is designed to promote your self-awareness. This hands-on, active-learning course will also teach students how to engage with mobile technology for academic advancement and organization.

Prereq: Permission of instructor.

2000 Major Exploration for Continuing Students

U 1

The How to Re-decide course is a seven week, one credit hour course which meets once a week with one additional hour of online material per week. The course guides students through the re-deciding process and formulating a new academic plan at OSU by exploring potential majors through assessments, exposure to OSU degrees and various ways to explore and determine the best fit.

Prereq: Not open to students with credit for 1100.01 or 1100.02.

Film Studies

2270.02 Introduction to Film Studies Online

U 3

An introduction to the field of Film Studies based on a survey of the major theories of film analysis.

Prereq: Not open to students with credit for 2270.01 or 2271 (270). GE VPA course.

2271 Introduction to Film Studies for Majors

U 3

An introduction to the field of Film Studies based on a survey of the major theories of film analysis, specifically geared for incoming majors.

Prereq: English 2263 (263), or HistArt 2901 (260). Not open to students with credit for 2270 (270). GE VPA course.

2367.01 The American Film Auteur

U 3

An intermediate course centering around the work of one important US filmmaker that extends and refines expository writing and analytic reading / viewing skills.

Prereq: English 1110 (110) and Soph standing, or enrollment in Film Studies major. Repeatable to a maximum of 6 cr hrs. GE writing and comm course: level 2.

2367.02 The American Film Genre

U 3

An intermediate course centering around the works of one important US film genre that extends and refines expository writing and analytic reading / viewing skills.

Prereq: English 1110 (110) and Soph standing, or enrollment in Film Studies major. Repeatable to a maximum of 6 cr hrs. GE writing and comm course: level 2.

3660 Documentary Film Studies

U 3

An upper-level course in documentary geared toward film studies majors.

Prereq: 2270 or 2271, or permission of instructor. Repeatable to a maximum of 9 cr hrs.

4191 Film Studies Internship / Field Practicum

U 1 - 2

An opportunity for work experience and on-the-job learning in film studies or film production related employment.

Prereq: Permission of program director, and enrollment in Film Studies major. Repeatable to a maximum of 6 cr hrs or 5 completions. This course is graded S/U.

4194 Group Studies

U 1 - 3

Group studies for work in various fields of film studies not normally offered in courses.

Repeatable to a maximum of 6 cr hrs or 3 completions.

4580 Studies in a Major Director

U 3

A course in the films, style, themes, and career of a single director.

Prereq: 2271 or 2367.01, and Jr standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4640 Studies in Cinema History

U 3

An upper-level course on aspects of film history geared toward film studies majors.

Prereq: 2270 or 2271, or permission of instructor. Repeatable to a maximum of 9 cr hrs.

4650 Studies in Regional Cinema

U 3

An upper-level course on topics in a (sub)-national, geographic, or cultural region's cinema conducted in English and geared toward film studies majors.

Prereq: 2270 or 2271; or permission of instructor. Repeatable to a maximum of 9 cr hrs.

4670H Cinema and the Historical Avant Garde

U 3

Historicizes cinema's political and artistic roots, concentrating on the perceived and real possibilities of the medium. Fosters critical awareness of "film culture" historically and currently.

Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 670H, or German 4670H (670H). Cross-listed in German.

4800 Story Development for Film and Television

U 3

In this course, students will harness their pre-existing critical thinking skills and historical knowledge to develop a personal statement-of-purpose that enables them to generate and refine their own original film and television concepts for subsequent production projects.

Prereq: Permission of instructor. Not available for students with credit for FilmStd 4194 AU 14 or English 4800. Cross-listed in English.

4880 Screenwriting and the Business of Cinema

U 3

This course examines screenwriting as both a literary art form and a challenging profession.

Prereq: Theatre 5331 (636), or permission of instructor. Not open to credit to students with credit for 680.

4881 Screenwriting and the Business of Television

U 3

This course examines television writing from both a creative and business perspective. Each student will individually pitch, and then write the show's bible, outline, and pilot. Students learn about teleplay structure, as well as ways to develop intriguing characters, realistic dialogue, and engaging episodes. In small groups students develop, write, and read others' work collectively.

Prereq: Theatre 5331 or permission of instructor. Not available to students with credit for 5194 Sp15.

4890 Advanced Screenwriting

U 3

An intensive writing course in which each student completes a feature-length screenplay based on work previously completed in Film Studies 680 or Film Studies 4880.

Prereq: 4880 (680), and permission of director. Not open to students with credit for 690.

4895 Advanced Seminar: Topics in Film Studies

U 3

Selected problems (themes, movements, theories, genres, styles, etc.) in film studies; topics vary per semester.

Prereq: Enrollment in FilmStd major, and Sr standing, or permission of instructor. Repeatable to a maximum of 15 or 15 hrs.

4998 Undergraduate Research

U 1 - 9

Undergraduate research or creative activities in variable topics.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4999 Distinction Project

U 2 - 12

Completion of a distinction project developed in consultation with advisor.

Prereq: Sr Standing, and permission of instructor. This course is graded S/U.

4999H Honors Thesis

U 2 - 12

Completion of an honors thesis. Should be scheduled in consultation with advisor. Topics vary. Prereq: Honors, Sr standing, and permission of instructor. This course is graded S/U.

5193 Individual Studies

U G 1 - 3

Students may register for individual directed study under this number for work in various fields of film studies not normally offered in courses.

Prereq: Permission of program director. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5600 Pathways in Film Practice and Theory

U G 3

Explorations of the rich interconnections between the understanding and the production of moving-image works. Students will be introduced to alternative modes of the moving image in the context of other modes of artistic expression and critical thought, with the aim of increasing intellectual breadth and production skills.

Prereq: 2271, or Grad standing; or permission of program. Repeatable to a maximum of 6 cr hrs.

202 Film Studies

7000 Graduate Studies in Film History	G	3	4193 Individual Studies	U	1 - 3
Study of the social, industrial, technological, and intellectual history of cinema, including cinema's relationships to modernity and its transnational developments.					
Prereq: Grad standing, or permission of instructor.					
7001 Advanced Theory Seminar: Methods and Applications					
G	3		4194 Group Studies	U	1 - 3

A theory and methods seminar which focuses on one scholarly approach to cinema (auteurism, formalism, historicism, feminism, etc.).

Repeatable to a maximum of 9 cr hrs.

7191 Graduate Internship	G	1 - 3
An opportunity for work experience and on-the-job learning in film studies or film production related employment.		
Prereq: Permission of director of graduate studies or program director. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.		

7193 Graduate Independent Study	G	1 - 3
Graduate independent study. Students may register to pursue study in various fields of film studies not normally offered in courses.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		

7999 MA Thesis Research	G	1 - 3
Research for M.A. Thesis.		
Prereq: Permission of instructor and director of graduate studies or program director.		

Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

Food Science and Technology

1100 Exploring Food Science and Technology	U	½	4536 Food Safety and Public Health	U	2
Basic understanding of the global trends within food science and technology, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.					
1110 Chocolate Science					
Introduction to science and business of chocolate. Students develop and market a chocolate product as part of a virtual company. Students taste commercial products.					
Prereq: Not open to students with credit for 101.					
1120 Wine and Beer in Western Culture	U	2	4597.01 Alcohol and Society	U	3
The role of wine and beer in western culture with emphasis on the geographic origins, production techniques, and stylistic considerations.					
Prereq: Not open to students with credit for 170.					
1140 Kitchen Science	U	2	4597.02 Food and Health Controversies in the 21st Century	U	3
Students will be introduced to sanitation rules, basic culinary/baking methods, fundamentals of cooking & the science behind its methodology. Students will also gain an understanding of common foods & their function in cooking. Class will provide demonstration & explanation of a number of cooking techniques & methodology of each formulation will be explained on a scientific basis.					
Prereq: Chem 1110 or Biology 1101, or equiv.			Examines current controversies surrounding food. Topics include biotech foods, dietary supplements, childhood obesity and public policies domestically and abroad that fuel the controversies		
1150 Caffeine Science	U	1	Prereq: Jr or Sr standing. Not open to students with credit for 597.02. GE cross-disciplinary seminar course.		
Explore the science of caffeine and production of caffeinated products , how it affects the human body along with a study of the historical importance of some of today's most popular caffeine sources.			4600 Food Composition and Function		
2193 Individual Studies	U	1 - 3	The purpose of this course will be to provide students a comprehensive introduction to the diverse and modern topics in Food Composition and Function. At the end of the course, students should have clear understanding of the macro-components of foods, understand basic food chemistry principles, and understand the composition-function relationship in foods.		
Individual study course to permit undergraduate students to explore in-depth selected areas of food science and nutrition.			Prereq: Biology 1101 or 1113, and Chem 1110 or 1210.		
Prereq: GPA 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is progress graded (S/U).			4999 Research with Distinction	U	1 - 5
2200 The Science of Food	U	3	Conducting and reporting research with Distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.		
Food and nutrition in modern health; principles involved in digestion, metabolism and contribution of food to diseases processes, including food poisoning and the role of science, biotechnology and processing in meeting health and food needs.			Prereq: CPHR 3.0 or above, and GPA 3.0 or above in FdScTe, and permission of project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is progress graded (S/U).		
Prereq: Biology 1101 (101) or 1113 (113). Not open to students with credit for 201. GE nat sci bio course.			4999H Honors Research with Distinction	U	1 - 3
2400 Introduction to Food Processing	U	3	Conducting and reporting research with Distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.		
Introductory class applying chemistry, biology, and engineering to hands-on experience on the production and evaluation of foods. Includes basic food regulations, sanitation and formulation.			Prereq: Honors standing, and FAES 4590.01H (590H), and CPHR 3.4 or above, and GPA 3.4 or above in FdScTe, and permission of honors project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.		
Prereq: Biology 1101 (101) or 1113 (113), and Chem 1110 (101) or 1210 (121). Not open to students with credit for 401.			5310 Food Quality Assurance	U G	3
2410 Brewing Science	U	2	Provides students with a knowledge of quality assurance concepts and procedures and tools for establishing quality control programs to produce high quality safe foods.		
Science and practices of beer production including hop and barley cultivation, the science of malting and fermentation, flavor development and beer processing.			Prereq: 2400 and Stat 1450 or equiv., or Grad standing.		
Prereq: Biology 1101 (101) or 1113 (113), and Chem 1110 (101) or 1210 (121). Not open to students with credit for 411.			5320 Food Laws and Regulations	U G	2
4191 Internship	U	1	Major food laws/regulations, food regulatory agencies, good manufacturing practices, HACCP, ingredients, labeling regulations, adulteration and misbranding, compliance/investigations/enforcements, crisis management, recall, Ohio State food laws.		
Twelve weeks of structured in-depth industrial experience in selected food related subjects. Experience must be obtained with an organization approved by the department.			Prereq: 2400, or Grad standing, or permission of instructor. Not open to students with credit for 640.		
Prereq: 12 cr hrs at the 5000-level or above in major field, and enrollment in FdScTe, and permission of instructor. Not open to students with credit for 589. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			5330 Food Plant Management	U G	2
Covers the essentials of food plant operations from a business and management, rather than a scientific or technical, perspective.			Covers the essentials of food plant operations from a business and management, rather than a scientific or technical, perspective.		
Prereq: 2400 and Stat 1350 or equivalent, or Grad standing. Not open to students with credit for 648.			Prereq: 2400 and Stat 1350 or equivalent, or Grad standing. Not open to students with credit for 648.		
5400 Unit Operations in Food Processing	U G	3	5400 Unit Operations in Food Processing		
Study of unit operations in preserving foods by thermal and alternative food processing methods through problem solving and experimentation. Interdependence of food engineering, chemistry, and microbiology principles in food preservation.			Study of unit operations in preserving foods by thermal and alternative food processing methods through problem solving and experimentation. Interdependence of food engineering, chemistry, and microbiology principles in food preservation.		
Prereq: 2400, FABEng 3481 (481), and Micrbio 4000 (Micrbiol 509), or permission of instructor. Not open to students with credit for 630 or FABEng 4410 (584). Cross-listed in FABEng 4410.			Prereq: 2400, FABEng 3481 (481), and Micrbio 4000 (Micrbiol 509), or permission of instructor. Not open to students with credit for 630 or FABEng 4410 (584). Cross-listed in FABEng 4410.		

5410 Fruit and Vegetable Processing
U G 3

Composition of fruits and vegetables, how this affects quality during processing, principles, equipment and quality changes during common processing methods, including juicing, drying, freezing, canning, and jelly manufacture.

Prereq: 2400, or Grad standing. Not open to students with credit for 613.

5420 Dairy Processing
U G 3

Principles involved in the production, processing and safety of high quality milk and milk products.

Prereq: 2400 (401) and MicrBio 4000 (509). Not open to students with credit for 610.

5430 Food Fermentations
U G 3

Making fermented foods (dairy, alcoholic, meat, vegetable products, etc.) and understanding the microbiological and biochemical changes involved.

Prereq: MicrBio 4000. Not open to students with credit for 611.

5450 Food Packaging
U G 3

A discussion of terminology and literature of commercial packaging, principal methods of packaging, and principles of selecting packaging materials.

Prereq: 2400 (401), or Grad standing. Not open to students with credit for 649.

5500 Measurement of Food Perception and Liking
U G 3

Explores the principles and procedures for accurately assessing the sensory and hedonic properties of foods and consumer products. Appropriate test design, statistical analyses and data interpretation will be discussed and the physiological and psychological principles impacting sensory judgments will be explored. A proficiency in basic statistics and Excel is required.

Prereq: ComLdr 3537, AEDEcon 2005, AnimSci 2260, HCS 2260, ENR 2000, or Stat 1450.

5536 Food Microbiology Lecture
U G 3

Microbiology as applied to food. Students learn about microorganisms that spoil food or cause food-transmitted diseases, as well as beneficial microorganisms. Control of harmful microorganisms in food is discussed.

Prereq: MicrBio 4000 (MicrBio 509) or 4100 (520), or Grad standing. Not open to students with credit for 636.01 or MicrBio 5536 (MicrBio 636.01). Cross-listed in MicrBio.

5546 Food Microbiology Laboratory
U G 3

Microbiological analyses as applied to food. Students learn how to detect and quantify microorganisms that spoil food or cause food-transmitted diseases, as well as beneficial microorganisms.

Prereq: 5536 (636.01) or MicrBio 5536, or Grad standing. Not open to students with credit for 636.02 or MicrBio 5546 (636.02). Cross-listed in MicrBio.

5600 Food Chemistry
U G 3

Chemical, physical and functional properties of foods and effects of processing on those constituents using an array of chemical, biochemical and instrumental technologies in accordance with current food industry and regulatory agency practices.

Prereq or concur: 2400 (401) and Chem 2510, or Grad standing. Not open to students with credit for 605.

5610 Food Analysis
U G 3

Chemical, physical and functional properties of foods and effects of processing on those constituents using an array of chemical, biochemical and instrumental technologies in accordance with current food industry and regulatory agency practices.

Prereq: 5600 (605), or Grad standing. Not open to students with credit for 601.

5710 Food Additives
U G 2

Chemical and physical nature of food additives; functions and effects on chemical, rheological, microbiological, and nutritional properties of foods.

Prereq: 10 cr hrs in FdScTe, or Grad standing. Not open to students with credit for 621.

5720 Food Product Development
U G 3

Development of a new food product including generation of concepts, consumer panel testing, development of prototypes, process optimization and consumer testing.

Prereq: 2400, and Sr standing, or Grad standing. Not open to students with credit for 650.

5721 Applied Food Product Development
U G 1

A problem-based interdisciplinary capstone learning experience designed to enhance career skills (critical thinking, decision making, team work, communication, etc.) in the context of industry's approach to developing new and improved food products.

Prereq: 5720. Not open to students with credit for 650.

5730 Technical Problem Solving
U G 3

Analysis of technical problems in food science; fostering creative thinking to the approach and solution of problems; preparation and oral presentation of paper.

Prereq: 5600 or 5710, and 5536 or 4536, and 5400, 5410, 5420, 5430, or AnimSci 4500, and Sr standing; or Grad standing. Not open to students with credit for 696.

5797.01 Food Science and Policy in Italy
U G 3

This 3 credit, 3 week education abroad course will integrate knowledge gained in the required course PubAfrs 5890 with real-world experience to enhance the students' understanding of food science and policy in Italy. Tours will include food production and processing facilities, wineries, traditional meat processors, various retail formats, restaurants and cultural venues.

Prereq: PubAfrs 5890.

6320 Global Health and Environmental Microbiology
G 3

Fundamentals and emerging issues of health significant microorganisms (bacteria, viruses, protozoa) from water, air, soil and food, and their sources, transmission routes, treatments, detection methods and study tools.

Prereq: Not open to students with credit for PubHEHS 730. Cross-listed in PubHEHS.

7193 Individual Study
G 1 - 3

Individual study course to permit graduate students to explore in-depth selected areas of food science and nutrition.

Prereq: Permission of instructor. Not open to students with credit for 693. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

7194 Group Studies
G 1 - 3

Selected topics in food science.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

7360 Water Contamination: Sources and Health Impact
G 3

Understanding the sources, the transport mechanisms and the fate of microbial and chemical contaminants, their exposure risks, tracking methods, linking to other environmental matrices and their public health impacts.

Cross-listed in PubHlth 7360.

7430 Advanced Food Process Design
G 4

An integration of quantitative parameters describing changes in the quality attributes of foods with quantification of the physical changes occurring between the time of raw material harvest or assembly and the point of food consumption. Models to predict changes in quality attributes as a function of process parameters will be developed and demonstrated.

Prereq: 5400, 5536, 5600, or FABEng 3481, or permission of instructor. Cross-listed in FABEng.

7550 Advanced Concepts in Sensory Science
G 2

This course explores advanced concepts in Sensory Science including flavor perception, food intake and sophisticated methodological and data analysis procedures. The structure of this course will involve open discussion of important concepts obtained from seminal readings.

Prereq: 5500, or Stat 5000 or above.

7610 Instrumental Analysis I: Spectroscopic and Chromatographic Techniques in Food Analysis
G 3

Theory and practice of analytical chemistry applied to the identification and quantitation of analytes in food. Emphasis on chromatography, optical spectroscopy, mass spectrometry as well as sample preparation techniques and statistical data treatment.

Prereq: 5610 (601) or equiv.

7611 Instrumental Analysis II Molecular and Spectral Analysis Techniques
G 3

Methods of analysis of foods including thermal analysis, NMR, microscopy and rheology.

Prereq: Chem 2520 (252), or 2310 and 2540, or BioChem 4511 (511), or Grad standing, or permission of instructor. Not open to students with credit for 833.

7620 Food and Nutritional Toxicology
G 2

Basic principles of food and nutritional toxicology with emphasis on food components and food toxins including absorption, metabolism and excretion of xenobiotics, allergenic and toxic constituents, role of diet and nutrients in mutagenesis and carcinogenesis.

Prereq: BioChem 4511 or 5613. Not open to students with credit for 830, AnimSci 830, or HumnNtr 830.

7630 Food Colors and Pigments
G 3

Chemistry and reactivity of pigments and colors in foods.

Prereq: 5600 (605), 5610, or Grad standing, or permission of instructor. Not open to students with credit for 724.

7640 Food Proteins
G 2

Chemical, physical, biological, and functional properties of food proteins and their interactions with other food components.

Prereq: 2400 or equiv., 5600 or equiv., or permission of instructor.

7641 Food Carbohydrates
G 2

Chemical, physical, biological, and functional properties of food carbohydrates and their interactions with other food components.

Prereq: 2400 or equiv., 5600 or equiv., or permission of instructor.

7650 Food Lipids
G 2

Provide the students with an understanding of the chemistry and physical properties of lipids and their effects on quality and functional properties of food systems.

Prereq: Not open to students with credit for 820 and 821.

7660 Principles of Crystallization Processes in Food Systems
G 2

Discusses the principles of crystallization in food systems, particularly in dairy, frozen foods, confectionery, and baked products. This course would emphasize the importance of controlling the crystallization as a key factor in food quality, when some foods require the promotion of crystallization and others its prevention.

7670 Flavor Chemistry
G 2

This course will provide students with an understanding of the chemical stimuli that impact flavor perception, analytical approaches to characterize flavor stimuli, mechanisms of flavor formation, flavor-ingredient interactions, and industrial methods of flavor production.

204 Food Science and Technology

7830	Phytochemicals in Human Health: Crops to the Clinic	G	3
Covers the function and control of phytochemicals in plants, the function of phytochemicals in human health, delivery of phytochemicals through foods in the diet, strategies when designing studies examining foods for health, and policy and sustainability considerations.			
Prereq: Biochem 4511 (511) or 5613 (613), or equiv; or permission of instructor. Not open to students with credit for 7810. Cross-listed in HCS, HumnNtr, BSGP, and PubHEpi.			
7999	Thesis Research	G	1 - 18
Research for thesis purpose only. Repeatable. This course is graded S/U.			
8193	Individual Studies	G	1 - 3
Research experience and preparation of technical paper. Prereq: 10 cr hrs in Grad level FdScTe. Repeatable to a maximum of 15 cr hrs or 4 completions. This course is progress graded (S/U).			
8991	Graduate Seminar	G	1
Discussion of current topics and research findings in food science. Prereq: Grad standing. Not open to students with credit for 850.01. Repeatable to a maximum of 5 cr hrs.			
8999	Dissertation Research	G	1 - 16
Research for thesis or dissertation. Repeatable. This course is graded S/U.			

Food, Agricultural, and Biological Engineering

2100	Energy In Biological Systems	U	1
An introduction to energy flow and transformations within and for biological systems that include the human environment and the production and processing of plants, animals and micro-organisms the student will encounter in the food, agricultural and biological engineering program.			
Prereq: Soph standing in Engineering. Not open to students with credit for 325.			
2110	Fluid Mechanics in Food, Agricultural and Biological Systems	U	3
Fluid statics. Introduction to momentum transfer. Equation of continuity. Equation of motion. Navier-Stokes equations. Compressible flow. Applications in fluid transport and mixing. Dimensional analysis. Prereq: Physics 1250 (131), and prereq or concur: Math 2177. Not open to students with credit for 325 and CivilEn 413, or ChBE 420.			
2193	Individual Studies	U	1 - 3
Individualized study of topics and problems not included in regular courses of this department. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 4 completions. This course is graded S/U.			
2194	Group Studies	U	1 - 5
Basic group studies in Food, Agricultural and Biological Engineering. Prereq: Will be specified with course proposal. Repeatable to a maximum of 10 cr hrs or 4 completions.			
2710	Surveying	U	2
Introductory course designed to teach the measurement and collection of data using traditional methods, total stations and GPS. These techniques will be integrated and applied to traversing, topographic mapping and water flow analysis. Prereq: Soph standing in Engineering. Not open to students with credit for 373.			
2720	Principles of Soil and Water Engineering	U	2
Applications of hydrology, evapo-transpiration, open channel hydraulics, stream geomorphology, soil erosion and soil dynamics, and ecological engineering to problems in food, agricultural and biological engineering. Prereq: 2710. Not open to students with credit for 373.			
3120	Thermodynamics in Food, Agricultural and Biological Engineering	U	4
Fundamentals of thermodynamics applied to food, agricultural, biological, and ecological systems. Prereq or concur: Math 2177, 2255, 2415 or 2174. Not open to students with credit for ChBE 508 and 509, or MechEng 501. This course is available for EM credit.			
3130	Heat and Mass Transfer in Food, Agricultural and Biological Engineering	U	4
Heat and mass transfer principles and applications to food, agricultural, biological and ecological systems. Prereq: 2110, or 2120, or 3120.			
3140	Professional Development in Food, Agricultural, and Biological Engineering	U	1
Professional development related to food, agricultural, biological and ecological engineering; business communication skills for professional advancement; engineering ethics; health and safety; and the engineer's responsibilities to society. Prereq: 3rd year standing in Food, Agricultural and Biological Engineering. Not open to students with credit for 695.			

3150	System Dynamics and Electricity	U	4
Modeling of mechanical, fluid, thermal, electrical, and bio-systems. Analytical, computer simulation and experimental solution methods. 1st and 2nd order systems, frequency response. Electric power distribution, electric motor selection and control. Prereq: Physics 1251 (132), and Math 2174 (415), 2177 (415), 2415 (415), or 2255 (255). Not open to students with credit for 425.			
3170	Computer Graphics Using SolidWorks	U	2
An advanced course in graphics with emphasis on the application of computer generated graphics with SolidWorks in the solution of engineering problems. Prereq: Engr 1182.01 or 1182.02 or 1182.03 or 1186.01 or 1282.01H or 1282.02H or 1282.03H or 1282.04H.			
3171	Computer Graphics Using AutoCAD	U	2
An advanced course in graphics with emphasis on the application of computer generated graphics to the solution of engineering problems using AutoCAD. Prereq: Engr 1182.01 or Engr 1182.02 or Engr 1182.03 or Engr 1186.01 or Engr 1282.01H or Engr 1282.02.H or Engr 1282.03H or Engr 1282.04H.			
3481	Introduction to Food Engineering	U	3
Introduction to material and energy balances, momentum, heat and mass transfer. Applications of basic engineering principles in food processing through problem solving and laboratory experiments. Offered for Food Science & Technology. Prereq: Math 1151 (151), Physics 1106 (106), 1200 (111), Chem 1210 (121), or FdScTe 2400 (401); or permission of instructor. Not open to students with credit for 481. Not open to Engineering majors.			
3510	Introduction to Biological Engineering	U	4
An integration of biology, biochemistry and engineering fundamentals for engineering applications in fermentation microbiology and biotechnology, and for analysis of natural biological systems. Prereq: 2110, and 2120, or 3120. Not open to students with credit for 625.			
3610	Utilization of Energy in Agriculture	U	3
Study of motive and stationary power needs in agriculture, mechanics of traction, characteristics and selection of power sources, power transmission, principles and design of hydraulic systems. Prereq: 2110. Not open to students with credit for 565.			
3810	Agricultural Structures	U	3
Analysis and design of frames and members for agricultural structures. Prereq: MechEng 2020 or 2040. Not open to students with credit for 545.			
4193	Individual Studies	U	1 - 3
Advanced individual study of problems not included in regular courses of this department. Prereq: 6 cr hrs taken at the 3000 level or higher in Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.			
4410	Unit Operations in Food Engineering	U	3
Study of unit operations in preserving foods by thermal and alternative food processing methods through problem solving and experimentation. Interdependence of food engineering, chemistry, and microbiology principles in food preservation. Prereq: 3120 and Micrbio 4000 (Micrbiol 509) or equiv, or permission of instructor. Not open to students with credit for 584 or FdScTe 5400 (630). Cross-listed in FdScTe 5400.			
4567	Assessing Sustainability: Project Experience	U	3
Students gain experience in sustainability assessment by applying concepts and quantitative methods to evaluate environmental, economic, social, and technical sustainability of specific projects. EEDS major capstone. Prereq: AEDEcon 4330 or ISE 2040, or permission of instructor. Not open to students with credit for ENR 4567 or AEDEcon 4567. Cross-listed in AEDEcon and ENR.			
4900	Capstone Design I	U	3
Engineering design approach in a team environment; practice in the design and communication of a specific system within the student's area of specialization. Must be taken during last full academic year in FABEng. Prereq: 3150. Not open to students with credit for 725.			
4910	Capstone Design II	U	3
Methodology of design in a team environment; practice in the design and communication of a specific system within the student's area of specialization. Continuation of Capstone Design I. Prereq: 4900. Not open to students with credit for 725.			
4998	Undergraduate Research	U	1 - 5
Individually supervised research and project work. Prereq: 6 cr hrs taken at 3000 level or above in Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.			
4998H	Honors Undergraduate Research	U	1 - 5
Honors individually supervised research and project work. Prereq: Honors standing, and 6 sem cr hrs taken at the 3000-level or above in Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.			
4999	Undergraduate Thesis	U	1 - 5
Research leading to an undergraduate thesis. Prereq: 6 cr hrs taken at 3000 level or above in Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.			

4999H	Honors Undergraduate Thesis	U	1 - 5	
Honors research leading to an undergraduate thesis.				
Prereq: Honors standing, and 6 sem or hrs taken at the 3000-level or above in Engineering, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.				
5160	Electronics, Measurement and Instrumentation	U G	4	
Analysis of analog and digital electronic components and circuits. Analysis and design of measurement systems; data acquisition, signal conditioning, error and noise control, sensors and transducers used in food, agricultural and biological systems.				
Prereq: 3150 or equiv, or Grad standing in Engineering. Not open to students with credit for 605.				
5191	Professional Practice in Industry	U G	2	
Preparation and submission of a comprehensive report based on a pre-assigned outline of actual co-op or internship employment in industry.				
Prereq: Admission to co-op or intern program in FABEng. Repeatable to a maximum of 4 cr hrs.				
5194	Group Studies	U G	1 - 5	
Advanced group studies in Food, Agricultural, Biological, and Ecological Engineering with principal emphasis on design.				
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.				
5200	Appropriate Technology for Developing Countries	U G	3	
Introduction to Appropriate Technology product design and development for people in developing countries and the business related topics necessary for commercialization. The focus will be on market driven solutions that help ensure the long term sustainability of the solutions developed.				
Prereq: Engr 1182.01, 1182.02, 1182.03, 1282.01H, 1282.02H, 1282.03H, or 1282.04H; or Grad standing; or permission of instructor.				
5310	Ecological Engineering and Science	U G	4	
Definition, classification, and practice of ecological engineering. Course explores ecological ecosystems, ecosystem restoration, and the utilization of natural processes to provide societal services and benefits to nature.				
Prereq: At least one course in Biology, Ecology, Engineering, or Geology, and Jr standing. Not open to students with credit for EnvEng 5310 or ENR 5310. Cross-listed in EnvEng and ENR.				
5320	Agroecosystems	U G	3	
Holistic analysis of agricultural systems. Application of energy analysis to evaluate and design sustainable agroecosystems.				
Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 732.				
5410	Advanced Food Engineering	U G	3	
Application of heat and mass transfer, fluid flow, food properties, and food processing constraints in the design and selection of food processing equipment.				
Prereq: 3130 or 4410, or Grad standing. Not open to students with credit for 784.				
5520	Phytotechnology and Phytoremediation	U G	3	
Engineering principles of using plants for remediation of contaminated sites and treating polluted soil and water. Traditional methods as well as new trends and current research in phytoremediation technologies will be presented.				
Prereq: 3510 or EnvEng 3200, or Grad standing.				
5540	Biomass Conversion to Bioenergy	U G	3	
An exploration of the science and technologies used for energy production from bio-based materials, including agricultural biomass and solid waste sources.				
Prereq: 3130 or equiv.				
5550	Sustainable Waste Management	U G	3	
A comprehensive examination of waste generation, treatment and reuse including the impacts of pollution on the environment and human health. The focus will be on agricultural residues, manure, domestic wastewater, and municipal solid waste streams.				
Prereq: Sr or Grad standing in Engineering. Not open to students with credit for 650 or 652.				
5620	Fluid Power Systems	U G	3	
Analysis and design of fluid power systems used in mobile (off-road) agricultural, maintenance and earth moving equipment. Topics include: positive displacement components, control devices, actuators, fluids and fluid transmission electrohydraulics, system dynamics, and the use of state-of-the-art design and analysis tools.				
Prereq: 2110 or MechEng 3503; and MechEng 2020 or 2040; or Grad standing in engineering.				
5730	Design of Agricultural Water Management Systems	U G	3	
Use of soil physics, porous media flow theory, soil-plant interactions, hydrology, and hydraulics to design and manage irrigation and drainage systems.				
Prereq: 2110 or CivilEn 3130 (413), and 2720 (373) or equiv; or Grad standing. Not open to students with credit for 673.				
5750	Stream Geomorphology and Watershed Hydrology	U G	3	
Fundamental and advanced topics in stream geomorphology and hydrologic processes. Solving multi-objective engineering problems in a team setting involving protection, enhancement, and restoration of streams, rivers, and watersheds.				
Prereq: 2110 or CivilEn 3130 (413), and 2720 (373), or equiv; or Grad standing. Not open to students with credit for 773.				
5797	Study at a Foreign Institution	U G	1 - 15	
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.				
Prereq: Permission of department chairperson. Repeatable to a maximum of 25 cr hrs or 3 completions. This course is graded S/U.				
5820	Environmental Controls and Air Quality	U G	3	
Heating, ventilation, and air conditioning (HVAC) engineering applied to agricultural, residential, and commercial structures; analysis of factors affecting energy utilization and air quality; green and sustainable HVAC technologies.				
Prereq: 3130, MechEng 510, or ChBE 521. Not open to students with credit for 645.				
6193	Individual Studies	G	1 - 5	
Individual study of topics not included in regular courses; practice in development, organization, solution, and reporting on problems of student's choosing with faculty supervision.				
Prereq: Grad standing in Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.				
6194	Group Studies	G	1 - 5	
Advanced group studies in Food, Agricultural and Biological Engineering with principal emphasis on design.				
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.				
6999	Graduate Research in Food, Agricultural and Biological Engineering for Thesis	G	1 - 18	
Research for thesis.				
Repeatable. This course is graded S/U.				
7210	Research Methods in Food, Agricultural, and Biological Engineering	G	3	
Historical development of the research process. Problem selection and proposal development. Processes for acquiring funding and conducting quality research.				
Prereq: Grad standing in Engineering. Not open to students with credit for 801.				
7220	College Teaching in Engineering	G	2	
Initial preparation for providing instruction in professional engineering programs at the college level including skills, strategies and issues common to university teaching in general and engineering instruction more specifically.				
Prereq: Not open to students with credit for 810. This course is graded S/U.				
7230	Probabilistic Methods in Engineering Design	G	3	
Application of concepts of probability, random variables, statistical inference, multiple regression, multi-variate analysis, correlation analysis and concepts of Bayesian methodology to make reliable engineering design decisions.				
Prereq: Stat 3460 (427) or 3470 (427), or permission of instructor. Not open to students with credit for 735.				
7430	Advanced Food Process Design	G	4	
An integration of quantitative parameters describing changes in the quality attributes of foods with quantification of the physical changes occurring between the time of raw material harvest or assembly and the point of food consumption. Models to predict changes in quality attributes as a function of process parameters will be developed and demonstrated.				
Prereq: FdScTe 5400, 5536, 5600, or FABEng 3481, or permission of instructor. Cross-listed in FdScTe.				
7890	Seminar	G	1	
Lecture and discussion of current topics related to food, agricultural and biological engineering presented by faculty, staff, graduate students, and guest speakers.				
Prereq: Grad standing in Engineering. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.				
8193	Individual Studies	G	1 - 5	
Advanced individual study of topics not included in regular courses; practice in development, organization, solution, and reporting on problems of student's choosing with faculty supervision.				
Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.				
8194	Group Studies	G	1 - 5	
Advanced group studies in Food, Agricultural and Biological Engineering with principal emphasis on design.				
Repeatable to a maximum of 10 cr hrs or 4 completions.				
8999	Food, Agricultural and Biological Engineering Research for Dissertation	G	1 - 18	
Research for dissertation.				
Prereq: Doct standing in FABEng. Repeatable. This course is graded S/U.				

Food, Agricultural, and Environmental Sciences

206 Food, Agricultural, and Environmental Sciences

1100H	Introduction to Ohio State University and Food Agricultural, and Environmental Sciences - Honors	U	½	1101.51 Beginning French I Individualized	U	1 - 4
	Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of academic areas of study.			Introduction to French; development of listening, reading, speaking, and writing skills. Taught in French. Course not open to native speakers, students with EM credit, or to students with two or more years of study in this language in high school.		
	Prereq: Honors standing, or permission of instructor. Not open to students with credit for 100H, 101, ArtsCol 100, ArtsSci 100, Engineer 100, HomeEc 100, NatRes 100, or UVCSSur 100.			Prereq: Not open to students with credit for 1101.01, 101.01, 4 sem cr hrs of 1101.51, or 5 qtr cr hrs of 101.51. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
1200	Kellogg and Moser Food Security and Sustainability Learning Community Seminar	U	1	1101.61 Beginning French I: Individualized DL	U	1 - 4
	This course will be for students living in the W.K. Kellogg Foundation and Bobby Moser Food Security and Sustainability Learning Community (LC). Course content will include guest lecturers, field experiences, and the conception of a culminating project surrounding the topics of food security and sustainability.			Individualized introduction to French via distance learning; development of listening, reading, speaking, and writing skills. Taught in French. Course not open to native speakers, students with EM credit, or to students with two or more years of study in this language in high school.		
	Prereq: Acceptance in W.K. Kellogg Foundation and Bobby Moser Food Security and Sustainability Learning Community, and permission of instructor. This course is graded S/U.			Prereq: Not open to students with credit for 1101.01 or 4 credits of 1101.51. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course.		
2193	Individual Studies	U	1 - 3	1102.01 Beginning French II Classroom	U	4
	Planning, conducting, and reporting a special study appropriate to the needs of the student.			Continued study of French; development of listening, reading, speaking, and writing skills; readings based on contemporary French Culture and literature. Taught in French. Not open to native speakers of this language or with credit through regular course enrollment, or students with EM credit.		
	Prereq: Cumulative GPA 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.			Prereq: 1101.01, 102.01, or 102.66, or completion of 4 sem cr hrs in 1101.51 or 5 qtr cr hrs of 102.51. Not open to students with credit for 1102.01, 1102.30, 103.01, 103.51, or 103.66. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
2194	Group Studies	U	1 - 3	1102.51 Beginning French II Individualized	U	1 - 4
	Group study classes or projects in selected interdisciplinary topics in Agriculture.			Continued study of French; development of listening, reading, speaking, and writing skills; readings based on contemporary French Culture and literature. Taught in French. Closed to native speakers.		
2351	Planning a Career in Food, Agricultural, and Environmental Sciences	U	1	Prereq: 1101.01, or completion of 4 cr hrs of 1101.51. Not open to students with EM credit. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
	Discussion of personal career objectives in agriculture and conducting an effective employment campaign through resumes, cover letters, interviewing and job offer evaluation.			1102.61 Beginning French II: Individualized DL	U	1 - 4
	Prereq: Not open to students with credit for 351.			Continued individualized study of French via distance learning; development of listening, reading, speaking, and writing skills; readings based on contemporary French culture and literature. Taught in French.		
3000	Peer Mentor Leadership	U	1	Prereq: 1101.01, or completion of 4 cr hrs of 1101.51 or 1101.61. Not open to students with credit for 1102.01 or 4 credits of 1102.51. Repeatable to a maximum of 4 completions or 4 cr hrs. This course is available for EM credit. GE for lang course.		
3797	Study at a Foreign Institution	U	1 - 10	1103.01 Beginning French III Conversation and Composition	U	4
	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition as well as all travel and subsistence costs.			Continued development of listening, speaking, reading and writing with an emphasis on oral and written skills; focus on functional topics and thematic vocabulary. Taught in French. Not open to native speakers of this language through regular course enrollment or EM credit.		
	Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 3 completions.			Prereq: 1102.01 or 4 sem cr hrs of 1102.51; or 102.01 and 2 sem cr hrs of 1102.51; or 102.66 and 2 sem cr hrs of 1102.51; or 103.01, 103.66, or 5 qtr cr hrs of 103.51. Not open to students with credit for 1103.xx (104.xx). Only one decimal subdivision may be taken for credit. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
3797.03	First Year Experience Study at a Foreign Institution	U	3	1103.02 Beginning French III Conversation	U	4
	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition as well as all travel and subsistence costs.			Emphasis on speaking and aural comprehension with special attention to practical situations. Focus on content area such as cinema. Taught in French. Not open to native speakers of this language through regular course enrollment or EM credit.		
	Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 3 completions.			Prereq: 1102.01 or 4 sem cr hrs of 1102.51; or 102.01 and 2 sem cr hrs of 1102.51; or 102.66 and 2 sem cr hrs of 1102.51; or 103.01, 103.66, or 5 qtr cr hrs of 103.51. Not open to students with credit for 1103.xx (104.xx). Only one decimal subdivision may be taken for credit. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
4580	CFAES Global Option Capstone	U	1	1103.03 Beginning French III Contemporary Culture	U	4
	Synthesis of international experiences completed as part of the CFAES Global Option. Emphasis on learning, practicing, and applying principles and strategies related to the international aspects of the student's major.			Emphasis on various aspects of contemporary French cultures; readings and discussion in French. Taught in French. Not open to native speakers of this language through regular course enrollment or EM credit.		
	Prereq: Enrollment in the CFAES Global Option, and permission of instructor.			Prereq: 1102.01 or 4 sem cr hrs of 1102.51; or 102.01 and 2 sem cr hrs of 1102.51; or 102.66 and 2 sem cr hrs of 1102.51; or 103.01, 103.66, or 5 qtr cr hrs of 103.51. Not open to students with credit for 1103.xx (104.xx). Only one decimal subdivision may be taken for credit. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
4590H	Honors Research Colloquium	U	1	1103.04 Beginning French III Civilization	U	4
	Preparation of honors programs, design of honors research projects, and writing research proposals.			Aspects of French civilization; geography, history, social developments, and the arts; readings and discussion in French. Taught in French. Not open to native speakers of this language through regular course enrollment or EM credit.		
	Prereq: Honors standing, and Jr standing; or permission of instructor. Not open to students with credit for 590.01H.			Prereq: 1102.01 or 4 sem cr hrs of 1102.51; or 102.01 and 2 sem cr hrs of 1102.51; or 102.66 and 2 sem cr hrs of 1102.51; or 103.01, 103.66, or 5 qtr cr hrs of 103.51. Not open to students with credit for 1103.xx (104.xx). Only one decimal subdivision may be taken for credit. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
5194	Group Studies	U G	1 - 3	1103.51 Beginning French III Individualized	U	1 - 4
	Study in interdisciplinary topics in Agriculture.			Continued development of listening, speaking, reading and writing with an emphasis on oral and written skills; focus on functional topics and thematic vocabulary. Taught in French.		
	Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.			Prereq: 1101.01 & 1102.01; or completion of 4 cr hrs of both 1101.51 & 1102.51. Not open to students with credit for 1103.01 or 104.01; not open to native speakers of this language through regular course enrollment or EM credit. Only one decimal subdivision may be taken for credit. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
5797	Study at a Foreign Institution	U G	1 - 10			
	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition as well as all travel and subsistence costs.					
	Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 3 completions. This course is progress graded.					
French						
1101.01	Beginning French I Classroom	U	4			
	Introduction to French; development of listening, reading, speaking, and writing skills. Taught in French. Course is not open to native speakers of this language, students with EM credit, or to students with two or more years of study in this language in high school.					
	Prereq: Not open to students with credit for 1101.01, 101.01, 4 sem cr hrs of 1101.51, or 5 qtr cr hrs of 101.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.					

1103.61 Beginning French III: Individualized DL	U 1 - 4
Continued development of listening, speaking, reading and writing with an emphasis on oral and written skills; focus on functional topics and thematic vocabulary. Taught in French via distance learning.	
Prereq: 1101.01 and 1102.01; or completion of 4 cr hrs of 1101.51 or 1101.61, and completion of 4 cr hrs of 1102.51 or 1102.61. Not open to students with credit for 1103.01, 1103.02, 1103.03, or 1103.04; or 4 cr hrs of 1103.51. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course.	
1155.01 Beginning French Review Classroom	
U 4	
Intensive beginning French. Review of basic structures, vocabulary and skills. Taught in French. Not open to native speakers of this language.	
Prereq: 2 or more years of high school French, and placement in 1101.01 by EM credit only. Not open to students with credit for 1101.01 (101.01), 1101.51 (101.51), 1102.01 (102.01), 1102.51 (102.51), 102.66, 103.01, 103.51, or 103.66. This course is available for EM credit. GE for lang course. FL Admis Cond course.	
1801 Masterpieces of the French-Speaking World	U 3
Classic works of literature in translation by French and francophone authors from the 17th century to the present, such as Moliere, Madame de Lafayette, Voltaire, Flaubert, Duras, Cesaire, and Senghor.	
GE lit and diversity global studies course.	
1803.01 Paris	U 3
Exploration of the city of Paris through the study of its history, geography, population, and cultural production, including but not limited to art, architecture, cinema, literature, fashion, and cuisine.	
Prereq: Not open to students with credit for 1803.02 and 1803.03. GE cultures and ideas course.	
1803.02 Global May Paris I	U 1
Exploration of the city of Paris through the study of its history, geography, population, and cultural production, including but not limited to art, architecture, cinema, literature, fashion, and cuisine. Course must be followed by 1803.03.	
Prereq: Not open to students with credit for 1803.01. Course is progress graded. GE cultures and ideas course.	
1803.03 Global May Paris II	U 2
Second part of a two-part course on the cultural history of the city of Paris. This portion is a two-week study abroad trip to Paris in May.	
Prereq: 1803.02. Not open to students with credit for 1803.01. GE cultures and ideas course.	
2101.01 Introduction to French and Francophone Studies	U 3
Techniques for reading and interpreting different types of texts from the French-speaking world: stories, poetry, plays, films, music, and ads while building vocabulary, comprehension, speaking and writing skills.	
Prereq: 4 cr hrs of 1103 or 5 cr hrs of 104; or permission of instructor. Not open to students with credit for 201.01, 201.51, or 206. This course is available for EM credit. FL Admis Cond course.	
2101.01H Honors Introduction to French and Francophone Studies	U 3
Techniques for reading and interpreting different types of texts from the French-speaking world: stories, poetry, plays, films, music, and ads while building vocabulary, comprehension, speaking and writing skills.	
Prereq: Honors standing, and 4 cr hrs of 1103.01 or 5 cr hrs of 104; or permission of instructor. Not open to students with credit for 201.01, 201.01H, 201.51, or 206. This course is available for EM credit. FL Admis Cond course.	
2101.51 Introduction to French and Francophone Studies Individualized	U 1 - 3
Techniques for reading and interpreting different types of texts from the French-speaking world: stories, poetry, plays, films, music, and ads while building vocabulary, comprehension, speaking and writing skills.	
Prereq: 4 cr hrs of 1103 or 5 cr hrs of 104, or permission of instructor. Not open to students with credit for 201.01, 201.51, or 206. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is available for EM credit. FL Admis Cond course.	
2193 Individual Studies	U 1 - 15
Individual studies.	
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 15 completions.	
2194 Group Studies	U 1 - 15
Group studies.	
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 15 completions.	
2501 Topics in French Literature and Culture in Translation	U 3
Variable topics in French and Francophone literatures and cultures; taught in English.	
Prereq: Not open to students with credit for 250. Repeatable to a maximum of 6 cr hrs. GE lit course.	
2801 Classics of French Cinema	U 3
Introduction to the study of the cinema and to French film classics. Students will explore cinema as an art form, the social and cultural history of France as it relates to the cinema, and the qualities that make individual films cinematic masterpieces. Taught in English.	
GE VPA course.	

3101 French Grammar Review	U 3
Consolidation of previously learned grammar and introduction to new grammatical concepts. Practice in speaking French with attention to comprehension and oral expression. Not open to native speakers of this language through regular course enrollment or EM credit.	
Prereq: French 1103.01 (104.01), or 4 sem cr hrs of 1103.51 (5 qtr cr hrs of 104.51), or equiv. Students with 4 sem cr hrs or 5 qtr cr hrs for 1103.02 (104.02), 1103.03 (104.03), or 1103.04 (104.04) will need permission from the instructor to enroll. Prereq or concur: 2101.01 (201.01), or 2101.01H, or 3 sem cr hrs of 2101.51 (5 qtr cr hrs of 201.51), or 206. Not open to students with credit for 401. This course is available for EM credit.	
3102 French Pronunciation and Performance	
U 3	
Formation of French sounds, rules of pronunciation and diction. Reading and performing poems, excerpts from plays, public performances, television or film scripts.	
Prereq: 3101 or 401. Not open to students with credit for 404.	
3103 French Conversation	U 3
Practice in speaking French on a variety of topics; building of practical vocabulary; emphasis on comprehension and oral expression.	
Prereq: 2101.01 (201.01), or 2101.01H, or 3 sem cr hrs of 2101.51 (5 qtr cr hrs of 201.51), or 206. Not open to students with credit for 402.	
3201 French Literary and Visual Texts	U 3
Students improve reading, writing, and speaking skills by analyzing and discussing full-length French literary works and visual texts--such as paintings, fashion, photographs, and films from the Middle ages to the present.	
Prereq: 2101.01 (201.01), or 2101.01H, or 3 sem cr hrs of 2101.51 (5 qtr cr hrs of 201.51), and 3101 (401). Not open to students with credit for 425 or 426.	
3202 Literary and visual texts of the Francophone world	U 3
Readings and analysis of Francophone literary and multimedia texts that provide an appreciation and understanding of the French-speaking world.	
Prereq: 2101.01 (201.01), or 2101.01H, or 3 cr hrs of 2101.51 (5 cr hrs of 201.51), and 3101 (401). Not open to students with credit for 427.	
3301 Discovering Second Language Acquisition	U 3
Introduces undergraduates to second language acquisition (SLA), how children and adults learn new languages. Students explore contemporary approaches to SLA and evaluate the effectiveness of various language-teaching practices. Taught in English.	
3401 Introduction to Contemporary France	U 3
Introduction to ways of studying major aspects of French culture by means of lectures, readings, research projects, media, and internet.	
Prereq: 2101.01, or 2101.01H, or 3 sem cr hrs of 2101.51, or 206; and 3101. Not open to students with credit for 440.	
3402 Introduction to Francophone Cultures	U 3
Introduction to ways of studying major aspects of Francophone cultures by means of lectures, readings, research projects, media, and internet.	
Prereq: 2101.01 (201.01), or 2101.01H, or 3 cr hrs of 2101.51 (5 cr hrs of 201.51), or 206, and 3101 (401).	
3403 Topics in French-Speaking Cultures	U 3
Exploration of various facets of French and Francophone cultures through texts and media.	
Prereq: 2101.01 (201.01), or 2101.01H, or 3 cr hrs of 2101.51 (5 cr hrs of 201.51); and 3101 (401). Repeatable to a maximum of 6 cr hrs.	
3501 Introduction to French for the Professions	U 3
An introduction to business French with emphasis on basic business terminology, commercial correspondence, similarities and differences in business transactions, and international procedures.	
Prereq: 3101 (401, 402, 403) or 3102 (404); permission of instructor. Not open to students with credit for 406.	
3570 CLLC Radio	U 3
Student partners prepare 3 target language broadcasts, each 1 hour in length. Broadcasts stream live over the Internet, then become podcast for public use. Student "DJs" conduct target language research on radio broadcast history and at least 15 thematic topics and related music that interests them. Student choose their music and content with approval and guidelines, then produce scripts.	
Prereq: Permission of instructor.	
3701 Introduction to French Cinema	U 3
Introduction to the study of French cinema, French film history and the art of the cinema.	
Prereq: 3101 (401). Not open to students with credit for 470.	
3797 Intermediate Study at a French Institution	U 1 - 15
Group studies at a French institution.	
Prereq: Permission of department chairperson or study abroad office. Repeatable. This course is progress graded.	
3801 French-American Culture Wars	U 3
French-American cultural relations since World War I; an exploration of French reaction to and adoption or rejection of a number of American cultural "exports," from jazz and the GI to Coke and consumerism. Taught in English.	
Prereq: Not open to students with credit for 153. GE cultures and ideas course.	

208 French

4100 Advanced French Grammar for Contemporary Contexts	U	3	
Review and expansion of grammatical structures as they are used in speaking and writing in a variety of especially contemporary contexts.			
Prereq: 3101, and at least two other courses taught in French at the 3000-level or above; or permission of instructor. Not open to students with credit for 5101. This course is available for EM credit. FL Admis Cond course.			
4193 Individual Studies	U	1 - 15	
Individual studies.			
Prereq: Written permission of department. Not open to students with 30 cr hrs for 693.			
Repeatable to a maximum of 30 cr hrs or 30 completions.			
4194 Group Studies	U	1 - 15	
Group studies.			
Prereq: Written permission of department. Not open to students with 30 cr hrs for 694.			
Repeatable to a maximum of 30 cr hrs or 30 completions.			
4401 Topics in French and Francophone Studies	U	3	
In-depth exploration of a theme, issue, or question in French and/or Francophone Studies broadly conceived. Topics vary. Taught in French.			
Prereq: 3101; and 3201, 3202, 3401, 3402, 3403, 3501, or 3701; or permission of instructor.			
Repeatable to a maximum of 6 cr hrs.			
4690 French for the Professions Internship	U	1 - 6	
Supervised training in international (French-speaking) business.			
Prereq: 3501 (406) or permission of instructor. Notify Department chair no later than six months or one semester prior to start of internship. Not open to students with 6 cr hrs for 690.			
Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U. FL Admis Cond course.			
4797 Advanced Study at a Foreign Institution	U	1 - 15	
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.			
Prereq: Written permission of department chairperson. Not open to students with 45 cr hrs for 697. Repeatable. This course is progress graded. FL Admis Cond course.			
4998 Undergraduate Research Projects	U	3	
Undergraduate research or creative activities. Topics vary.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.			
4998H Honors Undergraduate Research Projects	U	3	
Undergraduate research or creative activities for honors students. Topics vary.			
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs.			
4999 Undergraduate Research Thesis	U	3	
Undergraduate thesis. Topics vary.			
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.			
4999H Honors Undergraduate Research Thesis	U	3	
Undergraduate thesis for honors students. Topics vary.			
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.			
5103 French Translation and Interpretation	U G	3	
An introduction to the theory and practice of translation (French to English and English to French) based on texts reflecting different types of written communication.			
Prereq: Undergrad students must have credit for 5101 (601). Not open to students with credit for 602			
5104 Medieval French	U G	3	
Introduction to medieval French grammar and vocabulary, using a medieval text as vehicle.			
Prereq: 3101, and at least two 3000-level French courses or above; or grad standing, and permission of Graduate Studies Chair. Not open to students with credit for 7101 (716.01).			
5105 Medieval Occitan	U G	3	
Introduction to the language and literature of medieval Occitan, especially to that of the troubadours.			
Prereq: 3101, and at least two additional 3000-level French courses or above; Grad standing; or permission of instructor. Not open to students with credit for 7102.			
5194 Combined UG and Grad Group Studies	U G	1 - 15	
Group studies.			
Prereq: Permission of instructor, or permission of Graduate Studies Chair (graduate students only). Not open to students with 30 cr hrs for 694. Repeatable. FL Admis Cond course.			
5201 Gothic to Renaissance: Texts and Contexts	U G	3	
Survey of French literature of the Middle Ages from its inception to Villon, with emphasis on different literary genres (epics, narrative fiction, poetry, theatre).			
Prereq: 3101 (401) and either 3201 (425, 426), or 3202 (427); graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor. Not open to students with credit for 650 or 721. FL Admis Cond course.			
5202 Versailles to the Enlightenment: Texts and Contexts	U G	3	
Major early modern French literary movements and authors to major ideas and authors of the 18th century in France; emphasis on such writers as Montesquieu, Voltaire, Diderot, and Rousseau.			
Prereq: 3101 (401) and either 3201 (425, 426), or 3202 (427); graduate students require written permission of the Graduate Studies Chair in consultation of student's advisor. Not open to students with credit for 652 and 653. FL Admis Cond course.			
5203 Romanticism to Surrealism: Texts and Contexts	U G	3	
French literary movements and individual works situated in their historical contexts from the turn of the 19th century to World War I.			
Prereq: 3101 (401), and either 3201 (425 and 426) or 3202 (427); or Grad standing (graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor). Not open to students with credit for 655. FL Admis Cond course.			
5204 World Wars and Beyond: Texts and Contexts	U G	3	
Major intellectual and literary currents in France from the early 20th century to the present.			
Prereq: 3101 (401), and either 3201 (425 and 426) or 3202 (427); or Grad standing (graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor). Not open to students with credit for 656. FL Admis Cond course.			
5205 Black Africa and Diaspora: Texts and Contexts	U G	3	
Major intellectual and literary currents in black Africa and the Caribbean.			
Prereq: 3101 (401), and either 3201 (425 and 426) or 3202 (427); or Grad standing (graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor). Not open to students with credit for 657.01. FL Admis Cond course.			
5206 North Africa: Texts and Contexts	U G	3	
Major intellectual and literary currents in Francophone North Africa.			
Prereq: 3101 (401), and either 3201 (425 and 426) or 3202 (427); or Grad standing (graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor). Not open to students with credit for 657.02. FL Admis Cond course.			
5401 Louis XIV to World War I	U G	3	
Political and cultural history of France from Absolute Monarchy to World War I.			
Prereq: 3101 (401) and 3401 (440), or permission of instructor; or Grad standing and permission of Graduate Chair and student advisor. Not open to students with credit for 643. FL Admis Cond course.			
5402 The Roaring 20's to the 21st Century	U G	3	
The transformation of French society since WWI as a result of changing social and political structures.			
Prereq: 3101 (401) and 3401 (440) or permission of instructor; or Grad standing and permission of Graduate Studies chair. Not open to students with credit for 644. FL Admis Cond course.			
5403 Topics in French-Speaking Cultures and Literatures	U G	1 - 3	
Intense exploration of an aspect of French or Francophone culture or literature.			
Prereq: 3101 (401), and either 3201 (425 and 426), 3202 (427), or 440; or Grad standing (graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor). Not open to students with credit for 15 qtr cr hrs or 631. Repeatable to a maximum of 9 cr hrs or 9 completions. FL Admis Cond course.			
5701 Topics in French and Francophone Cinema	U G	3	
Study of the history and aesthetics of French cinema. Topics vary.			
Prereq: For undergraduates - 3101 (401) plus one additional 3000- or 4000-level (400-level) course taught in French. For graduate students - Permission of the Graduate Advisor. Not open to students with credit for 670. FL Admis Cond course.			
5702 Studies in French Cinema	U G	3	
Study of the history and aesthetics of French cinema. Taught in English.			
Prereq: 10 qtr cr hrs or 6 sem cr hrs in Literature and/or Cinema taken at the 2000 (200) level, or permission of instructor; or Grad standing, and permission of the Graduate Studies Chair in consultation with student's advisor. Not open to students with credit for 672. Repeatable to a maximum of 6 cr hrs.			
5797 Advanced and Graduate Study at a Foreign Institution	U G	1 - 6	
An opportunity for advanced undergraduate and graduate students to study at a foreign institution and receive Ohio State credit for that work.			
Prereq: Permission of department study abroad credit advisor. Repeatable to a maximum of 15 cr hrs or 5 completions.			
6193 Graduate Independent Study	G	1 - 15	
Graduate independent study.			
Repeatable to a maximum of 30 cr hrs or 30 completions.			
6194 Graduate Group Studies	G	1 - 15	
Graduate group studies.			
Repeatable to a maximum of 30 cr hrs or 30 completions.			
6571 French Reading for Research I	G	3	
Designed primarily for students who have no formal preparation in French; covers basic grammar and vocabulary and develops students' reading skills. Credit does not apply to the minimum number of hours required for the master's or doctoral degrees.			
Prereq: Grad standing.			

6572 French Reading for Research II	G	3
Designed primarily for students who have no formal preparation in French; covers basic grammar and vocabulary as well as developing reading skills. Credit does not apply to the minimum number of hours required for the master's or doctoral degrees.		
Prereq: 6571 (571) and Grad Standing, or permission of instructor.		
6999 Master's Thesis	G	1 - 15
Master's thesis.		
Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.		
7301 Teaching French and Italian at the College Level	G	3
Methods and techniques for teaching French and Italian languages at the college level.		
Prereq: Graduate teaching associate in the Department of French and Italian, or permission of instructor. Not open to students with credit for 801, EduTL 801.01, EduTP 801.01 or Italian 801. Cross-listed in Italian.		
7601 Introduction to Literary and Cultural Theory	G	3
Tools for conducting research in literary and cultural studies; survey of major theoretical movements in literary and cultural criticism; practical experience in bibliography construction and research-paper writing.		
Prereq: Not open to students with credit for 883 or Italian 7601 (790).		
8193 Advanced Graduate Individual Studies	G	1 - 9
Graduate independent study.		
Prereq: Written permission of instructor. Not open to students with 15 cr hrs for 893.		
Repeatable to a maximum of 18 cr hrs or 18 completions. FL Admis Cond course.		
8194 Advanced Graduate Group Studies	G	1 - 9
Investigation of problems in the various fields of French literature and language.		
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions. FL Admis Cond course.		
8201 Medieval and Renaissance Studies	G	3
Intensive study of influential authors and anonymous works of French literature between 1100 and 1500 with an intensive exploration of special topics or problems with readings in relevant criticism and scholarship.		
Repeatable to a maximum of 12 cr hrs. FL Admis Cond course.		
8202 Classical and Enlightenment Studies	G	3
Intensive exploration of a special topic or problem, with readings in literary works and in relevant criticism and scholarship through 17th- and 18th-century France.		
Repeatable to a maximum of 12 cr hrs. FL Admis Cond course.		
8203 Modern and Contemporary Studies	G	3
Intensive exploration of special topics or problems in 19th, 20th, and/or 21st century France through readings of literary and cultural texts and relevant criticism.		
Repeatable to a maximum of 12 cr hrs. FL Admis Cond course.		
8204 Francophone Studies	G	3
Various topics and issues in non-European francophone literatures and cultures.		
Repeatable to a maximum of 12 cr hrs. FL Admis Cond course.		
8205 French and Francophone Studies Across Boundaries	G	3
Study of aspects of French and Francophone literature, culture, and film across boundaries of historical period, geography, genre, and/or medium. Variable topics. Repeatable to a maximum of 9 cr hrs.		
8302 Issues in Second Language Studies	G	3
Explores in depth a particular area or issue of second language acquisition.		
Repeatable to a maximum of 12 cr hrs.		
8303 Teaching Apprenticeship	G	1 - 3
An apprenticeship for advanced doctoral students to work with faculty members on the design and teaching of upper-level French language, literature, and culture courses.		
Prereq: Two years previous teaching experience; permission of instructor and graduate studies chair. Not open to students with 10 cr hrs for 903. Repeatable to a maximum of 6 cr hrs or 2 completions.		
8601 Theory and Practice	G	3
Focus on one broad area of theory in French and Italian Studies each time offered; students read major theorists and write research paper using one or more of critical approaches studied.		
Prereq: 7601 (883). Repeatable to a maximum of 12 cr hrs. Cross-listed in Italian.		
8602 Comparative French and Italian Studies	G	3
Focuses on a comparative aspect of French and Italian studies. Content varies.		
Repeatable to a maximum of 12 cr hrs. Cross-listed in Italian.		
8701 French and Francophone Cinema	G	3
Detailed exploration of particular topics or periods in French and/or Francophone cinema with extensive analysis of individual films and readings in relevant theory and criticism.		
Repeatable to a maximum of 12 cr hrs.		
8899 Dissertation Workshop	G	1
Faculty-led workshop in which Ph.D. candidates meet weekly to discuss and critique their current dissertation research. Required each semester for Ph.D. candidates, including the semester in which they defend the dissertation.		
Prereq: Ph.D. candidate in French or Italian. Repeatable to a maximum of 10 cr hrs.		

8998 Pre-Candidacy Research	G	1 - 9
Pre-candidacy research and examination preparation for advanced graduate students.		
Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.		
8999 Dissertation Research	G	1 - 9
Research for dissertation.		
Prereq: Candidacy exams completed. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U. FL Admis Cond course.		

General Studies

1201T College Orientation	U	1/2
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.		

General Studies: Biology

1200T General Biology	U	4
A basic course intended to provide a biological foundation, with supporting chemistry concepts, emphasizing principles and applications of biology.		
Prereq: Not open to students with credit for 120T or Biology 1113 (113). This course is available for EM credit.		
1250T General Botany with Applications	U	4
Introduction to the fundamental structures and processes of plants, including plant anatomy, physiology, morphology, reproduction, and genetics.		
Prereq: Not open to students with credit for 125T or HCS 300 or PlntBio 300. This course is available for EM credit.		
2194T Group Studies	U	1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.		
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.		

General Studies: Chemistry

1100T Introduction to General Chemistry	U	3
Develops the basic concepts of atomic structure, bonding theory, molecular structure, chemical reactions, solutions, equilibrium, and acid-base chemistry.		
Prereq: GenMath 1040T or Math 1050 or Math placement level R or higher. Not open to students with credit for Chem 1110 or 1210. This course is available for EM credit.		
1150T Introduction to Organic Chemistry	U	3
Emphasizes the structure, nomenclature, and physical and chemical properties of organic and biological molecules.		
Prereq: 1100T (131T) or Chem 1110 (101). Not open to students with credit for 132T or Chem 102. This course is available for EM credit.		
2194T Group Studies	U	1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.		
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.		

General Studies: Communications Skills

1201T Exploring Agricultural Communication, Education and Leadership	U	1/2
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.		
2115T Technical and Business Writing	U	3
Principles of technical and business communication in the global setting with emphasis on practical applications for professional and business environments involving correct usage and documentation in writing, reading, speaking and listening.		
Prereq: English 1110.01 or 1110.03. Not open to students with credit for AgrComm 2367. This course is available for EM credit.		
2194T Group Studies	U	1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.		
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.		

General Studies: Humanities

1190.01T Humanities as a Window on Cultural Pluralism: The Arts in Ghana	U	3
An introduction to specific arts and cultural contexts of Ghana, West Africa, leading to a four-week study abroad, IntStd 5797.		

Prereq: Permission of instructor. Concur: IntStd 5797. Not open to students with credit for 190T.

210 General Studies: Humanities

1190.02T	Humanities as a Window on Cultural Pluralism: Global Arts	U	3
An introduction to specific visual arts and cultural contexts of four societies: Japan, Ghana, France, USA.			
This course is available for EM credit.			
2193T	Individual Studies	U	1 - 3
Designed to give an individual student an opportunity to pursue special studies not offered in other courses.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			
2194T	Group Studies	U	1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			

General Studies: Mathematics

1030T	Basic Mathematics I	U	3
A foundation course in arithmetic and beginning algebra skills. Emphasis is on obtaining competencies necessary to be successful in the Basic Mathematics II course.			
Prereq: Not open to students with credit for 1040T or 1140T.			
1040T	Basic Mathematics II	U	3
A review of algebra and geometry fundamentals with emphasis on measurement, percent application, two and three-dimensional geometry application, and direct and inverse proportion.			
Prereq: 1030T with a grade of C- or better, or Math placement Level S. Not open to students with credit for 1140T. This course is available for EM credit.			
1141T	Business Mathematics	U	3
The mathematics of business and finance: including proportion, the income statement, simple interest, compound interest, annuities, amortization and sinking funds.			
Prereq: 1040T or 1140T, or Math Placement Level R or higher. This course is available for EM credit.			
1145T	Technical Mathematics	U	3
A study of technical applications and computational methods involving variation, systems of equations, quadratic equations, graphical solutions to equations, logarithmic and exponential equations, and trigonometry.			
Prereq: 1040T or 1140T with a grade of C- or better, or Math Placement Level R or higher. This course is available for EM credit.			
2194T	Group Studies	U	1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			

General Studies: Social Science

1181T	Hispanic Culture and Language in the Workplace	U	3
Develop an understanding of how various Latino cultures influence workplace issues in order to improve the working environment and learn a basic workplace Spanish vocabulary.			
Prereq: Not open to students with credit for 184T. This course is available for EM credit.			
2194T	Group Studies	U	1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			

Geodetic Sciences

5194	Group Studies	U G	1 - 6
Group studies of a specified topic in geodetic sciences, geodesy, or geodynamics.			
Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 20 completions for any combination of 5194 or 694.			
5636	Geovisualization Geometry: Map Projections and More	U G	4
Principal map projections of the sphere, their distortions, properties, and usage. Evolution of geospatial visualization methods using computer graphics.			
Prereq: 2153 (254) or equiv. Not open to students with credit for GeodSciM 636.			
5637	Topics in Mapping	U G	3
A survey of developments in mapping and geographic information science of importance to geodetic scientists specializing in geodesy, geodynamics, spatial data acquisition technology, and mathematical and statistical methods.			
Prereq: 5636 (636), or permission of instructor. Not open to students with credit for GeodSciM 637.			
5652	Adjustment Computations	U G	5
Classification of errors; measures of dispersion; variance and covariance; propagation of errors; weights, observations, and normal equations; algorithms and examples, weighted and fixed constraints; statistical tests; error ellipses.			
Prereq: Math 1172, 2153, 2173 or 254 or equiv; and 2568, 4568, or 572 or equiv. Not open to students with credit for GeodSciM 650 or 651.			

5660	Geometric Reference Systems	U G	4
Geodetic and astronomic coordinates; ellipsoidal geometry; geodetic datums; terrestrial and celestial reference systems; reduction of celestial coordinates; polar motion; time systems.			
Prereq: Math 1172, 2153, 2173, or 254 or equiv; and Math 2568, 4568, or 572 or equiv. Not open to students with credit for 660.			
5781	Geodesy and Geodynamics	U G	3
Crustal motion geodesy, reference frame realization and station trajectory analysis, plate motion and Euler's theorem, earthquake deformation cycle, elastic and viscoelastic responses to surface loading, numerical methods.			
Prereq: Math 1152 (153), 2174, 2568, or 5601, or Physics 1251; or permission of instructor. Not open to students with credit for GeodSciM 781.			
6193	Individual Studies in Geodetic Sciences	G	1 - 6
Assigned readings, laboratory, or field work, under the guidance of a faculty member, arranged to meet the requirements of individual students.			
Prereq: Permission of instructor. Repeatable to a maximum of 40 credit hours for any combination of 6193 and 693. This course is graded S/U.			
6776	Physical Geodesy	G	4
The gravity field and its potential; the disturbing potential and its representation; applications and current methods.			
Prereq: 5660 (660), or permission of instructor. Not open to students with credit for GeodSciM 776.			
6777	Satellite Geodesy	G	3
Geometric and dynamic applications of artificial satellites in geodesy; determination of station positions and the gravity field of the Earth.			
Prereq or concr: 6776 (776) or equiv. Not open to students with credit for GeodSciM 777.			
6786	Geospatial Data Structures for Computer Mapping and GIS	G	3
Introduction to spatial data structures and algorithms for computer mapping; implementation of algorithms for domain-specific data structures using object-oriented programming languages.			
Prereq: CSE 2221 (222) or equiv, or permission of instructor. Not open to students with credit for GeodSciM 786.			
7745	Inertial Navigation/Positioning Analysis	G	4
Coordinate frames; inertial measurement units – mechanizations, system error dynamics; linear estimation theory with application to initialization and calibration; system integration with GPS; geodetic applications.			
Prereq: Permission of instructor. Not open to students with credit for GeodSciM 745.			
7763	Advanced Adjustment Computations	G	4
Large patterned systems, Gauss-Markoff model and mixed models; collocation and its robustification; generalized matrices in geodetic science; sequential algorithms; consistency checks; error ellipsoids; variance component estimation; Kalman filtering.			
Prereq: 5652 (651) or equiv. Not open to students with credit for GeodSciM 762.			
7765	Analysis and Design of Geodetic Networks	G	2
Geodetic network definition; invariant quantities; geodetic datum; measures of accuracy and reliability; model tests; outlier detection; network design; optimality criteria; introduction to geodetic deformation analyses.			
Prereq: 7763 (762) or equiv. Not open to students with credit for 765.			
7837	Computational Cartography	G	4
Computational techniques and computational complexity of various operations of digital mapping; special emphasis on classical and recent map generalization algorithms, presented to illustrate methods of computer cartography.			
Prereq: 6786 (786), or CSE 2331 or 680, or permission of instructor. Not open to students with credit for GeodSciM 837 or 838.			
7875	Spectral Methods in Geodesy	G	3
Spectral analysis theory and techniques in gravimetric geodesy; Fourier, Hankel, and Legendre transforms; convolutions, discrete techniques, correlation and power spectral density estimation and frequency-domain lsc.			
Prereq: Permission of instructor. Not open to students with credit for GeodSciM 875.			
7998	Research in Geodetic Science	G	1 - 12
Graduate-level research.			
Prereq: Grad standing in Geodetic or Earth Sciences. Repeatable. This course is graded S/U.			
7999	Research for Thesis in the Geodetic Sciences	G	1 - 12
Graduate-level research for thesis.			
Prereq: Grad standing in Geodetic or Earth Sciences. Repeatable. This course is graded S/U.			
8785	Research Principles and Techniques	G	2 - 9
Training for research in any area for which the student has appropriate preparation.			
Prereq: Permission of instructor. Repeatable to a maximum of 60 cr hrs or 20 completions for any combination of 8785 or 885. This course is graded S/U.			
8862	Adjustment Computations for Random Processes	G	2
Random effects model, optimal and robust prediction, weak hypothesis testing, spatial processes, covariance function, variogram, homeogram, Kriging and alternative interpolators, quality measures.			
Prereq: 5652 (650) or equiv. Not open to students with credit for GeodSciM 862.			

8871 Advanced Physical Geodesy	G	3
Boundary-value problem; use of spherical harmonics; statistical application; appropriate representations; computations in space; combination of gravimetric and satellite data.		
Prereq: 7763, or 762 and 777 or equiv. Not open to students with credit for GeodSciM 871.		
8873 Advanced Satellite Geodesy		
Dynamics of earth-orbiting satellites; equations of motion and their solutions; advanced data acquisition methods; analysis for the gravity field and station positions.	G	3
Prereq: 7763 (763) and 6777 (777), or equiv. Not open to students with credit for GeodSciM 873.		
8998 Research in Geodetic Science	G	1 - 12
Graduate-level research.		
Prereq: Grad standing in Geodetic or Earth Sciences. Repeatable. This course is graded S/U.		
8999 Dissertation Research in Geodetic Science	G	1 - 12
Research for dissertation.		
Prereq: Grad standing in Geodetic or Earth Sciences. Repeatable. This course is graded S/U.		

Geography

1900 Extreme Weather and Climate	U	4
Surveys characteristics and processes of Earth's atmosphere and how it interacts with the planet's surface, oceans, and human activity. The course focuses on how these interactions work to produce extreme weather events and climate extremes and how they affect people.		
Prereq: Not open to students with credit for 1900H (120H), 2960 (220), 5900 (520), 120, or AtmosSc 2940 (230). GE nat sci phys course.		
1900H Extreme Weather and Climate		
Surveys characteristics and processes of Earth's atmosphere and how it interacts with the planet's surface, oceans, and human activity. The course focuses on how these interactions work to produce extreme weather events and climate extremes and how they affect people.	U	4
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 1900 (120), 120H, 2960 (220), 5900 (520), or AtmosSc 2940 (230). GE nat sci phys course.		
2100 Human Geography	U	3
Introduces students to the field of human geography; focus on real-world problems, such as migration, war, imperialism, environment, trade, conflict, inequality, and urbanization by applying key human geography concepts, such as place, space, scale, landscape, and territory.		
Prereq: Not open to students with credit for 205. GE soc sci indivs and groups course.		
2193 Individual Studies in Geography	U	1 - 9
Independent studies on selected Geography related topics.		
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.		
2194 Group Studies in Geography	U	1 - 3
Special studies on topics directly related to Geography.		
Repeatable to a maximum of 15 cr hrs or 5 completions.		
2194H Group Studies in Geography	U	1 - 3
Special studies on topics directly related to Geography.		
Prereq: Honors standing or permission of instructor. Repeatable to a maximum of 15 cr hrs of 5 completions.		
2200.01 Mapping Our World	U	3
Introduction to the power of maps, covering spatial representation, visual literacy, and geographic information technology in a global society.		
Prereq: Not open to students with credit for 2200.02 or 480. GE data anly course.		
2200.02 Mapping Our World	U	3
Study abroad in Scandinavia. Introduction to the power of maps, covering spatial representation, visual literacy, and geographic information technology in a global society.		
Prereq: Permission of instructor. Not open to students with credit for 2200.01 or 480. GE data anly course.		
2400 Economic and Social Geography	U	3
Geographic analysis of relationships between society and economy; focusing on such issues as globalization, production and consumption, inequality and social difference.		
Prereq: Not open to students with credit for 240 or 240H. GE soc sci human, nat, and econ resources and diversity global studies course. SS Admis Cond course.		
2400H Economic and Social Geography	U	3
Geographic analysis of relationships between society and economy; focusing on such issues as globalization, production and consumption, inequality and social difference.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 240 or 240H. GE soc sci human, nat, and econ resources and diversity global studies course. SS Admis Cond course.		
2500 Cities and their Global Spaces	U	3
Globalization and urbanization; urban economies, spaces, and societies; function, form, and pattern in developed and developing world cities.		
Prereq: Not open to students with credit for 455. GE soc sci orgs and polities and diversity global studies course.		

2750 World Regional Geography	U	3
Develops students' knowledge of world geography through the twin concepts of region and globalization; focuses on culture, society, politics, economy, and interplay between people and environments.		
Prereq: Not open to students with credit for 200 or 2750H (200H). GE soc sci human, nat, and econ resources and diversity global studies course. SS Admis Cond course.		
2750H World Regional Geography	U	3
Develops students' knowledge of world geography through the twin concepts of region and globalization; focuses on culture, society, politics, economy, and interplay between people and environments.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2750 (200) or 200H. GE soc sci human, nat, and econ resources and diversity global studies course. SS Admis Cond course.		
2800 Our Global Environment	U	3
Introduction to global environmental issues, including the interaction of physical and social factors in the causes of and strategies for ameliorating environmental problems.		
Prereq: Not open to students with credit for 1900 (120), 1900H (120H), 2960 (220), 2960H (220H), or 210. GE nat sci phys course.		
2960 Introduction to Physical Geography	U	4
The elements and processes of the natural environment, their characteristics, distribution, and implications in the human habitat.		
Prereq: Not open to students with credit for 1900 (120), 1900H (120H), 2800 (210), 2960H (220H), or 220. GE nat sci phys course. NS Admis Cond course.		
2960H Introduction to Physical Geography	U	4
The elements and processes of the natural environment, their characteristics, distribution, and implications in the human habitat.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 220H, 1900 (120), 1900H (120H), 2960 (220), or 2800 (210). GE nat sci phys course. NS Admis Cond course.		
3300 Transportation Security	U	3
Geographic aspects of transportation security. Spatial analysis of transportation linkages. Relationships between transportation and spatial organization; selected analytical models dealing with threats to transportation security.		
Prereq: Not open to students with credit for 445.		
3597.01 World Urbanization	U	3
An examination of geographic aspects of the urbanization process in the world's major regions; interrelationships between urbanization and economic development.		
Prereq: Not open to students with credit for 3701 (450) or 597.01. GE cross-disciplinary seminar course.		
3597.03 Environmental Citizenship	U	3
Provides tools for environmental citizenship by teaching interdisciplinary perspectives on biophysical and sociocultural forces that shape environments. Addresses general processes through local case studies.		
Prereq: Not open to students with credit for 597 or English 3597 (597.03). GE cross-disciplinary seminar course. Cross-listed in English.		
3600 Space, Power and Political Geography	U	3
Political geographic thought; territory and territoriality; borders and scale; space, power and uneven development; states and statecraft; and the politics of nations, regions and localities.		
Prereq: Not open to students with credit for 460 or 460H. GE soc sci orgs and polities course.		
3600H Space, Power and Political Geography	U	3
Political geographic thought; territory and territoriality; borders and scale; space, power and uneven development; states and statecraft; and the politics of nations, regions and localities.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 460 or 460H. GE soc sci orgs and polities course.		
3701 The Making of the Modern World	U	3
The geographies of modernity and their formation: the world market, the global polity, diasporas and constructing difference, colonialism, the transformation of nature, Eurocentricity, post-modernity.		
Prereq: Not open to students with credit for 450. GE soc sci orgs and polities and diversity global studies course.		
3702 Life and Death Geographies: Global Population Dynamics	U	3
Theories of population change; global and national contexts of fertility policy and reproductive health, morbidity and mortality trends; migration; environmental effects of population growth; urbanization.		
Prereq: Not open to students with credit for 470.		
3750 Geography of North America	U	3
Geographical analysis of North America; spatial patterns and processes associated with culture, politics, economy and social difference at international, national, regional and urban scales.		
Prereq: Not open to students with credit for 400. GE diversity soc div in the US course.		

212 Geography

3751	Geography of Ohio	U	3		5191	Internship In Geography	U G	1 - 6
	An appraisal of geographic factors in the settlement and development of Ohio; an overview of the evolution of the Ohio economy.				An opportunity for practical experience and on-the-job learning in a Geography-related work place.			
	Prereq: Not open to students with credit for 401.				Prereq: 12 cr hrs in major program, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.			
3753.01	Geography of the European Union	U	3		5193	Individual Studies in Geography	U G	1 - 15
	Geographic factors in the economic, social, and political progress of European integration; major problems of the area in the light of their geographic background.				Independent studies on selected Geography related topics.			
	Prereq: Not open to students with credit for 3753 (510) or 3753.02.				Prereq: Permission of instructor. Repeatable to a maximum of 75 cr hrs or 5 completions. This course is graded S/U.			
3753.02	Geography of the European Union	U	3		5194	Group Studies in Geography	U G	1 - 3
	Study abroad in Cyprus. Geographic factors in the economic, social, and political progress of European integration; major problems of the area in the light of their geographic background.				Special studies on topics directly related to Geography.			
	Prereq: Permission of instructor. Not open to students with credit for 3753 (510) or 3753.01.				Repeatable to a maximum of 15 cr hrs or 5 completions.			
3800	Geographical Perspectives on Environment and Society	U	3		5200	Cartography and Map Design	U G	3
	Geographical understanding of interactions between society and environment; how historical and contemporary views of the environment influence people's actions toward the environment and other people.				A study of the cartographic techniques of map compilation and design including generalization, symbolization, reproduction, and GIS-based mapping with an emphasis on thematic mapping.			
	Prereq: Not open to students with credit for 430. GE soc sci human, nat, and econ resources course.				Prereq: Not open to students with credit for 5200S (580S) or 580.			
3900	Global Climate Change: Causes and Consequences	U	3		5200S	Cartography and Map Design	U G	3
	Examines the natural and human factors that force changes in our climate and environment and explores strategies for a sustainable environment in the future.				A study of the cartographic techniques of map compilation and design including generalization, symbolization, reproduction, and GIS-based mapping with an emphasis on thematic mapping.			
	Prereq: Not open to students with credit for 3901H (410H) or 420. GE nat sci physical course.				Prereq: Not open to students with credit for 5200 (580) or 580S. GE service learning course.			
3901H	Global Climate and Environmental Change	U	3		5201	GeoVisualization	U G	3
	Examines both natural and social factors that force changes in our climate and environment and explores strategies for a sustainable environment in the future.				Examination of issues, techniques and applications of analytic cartography, interactive maps and scientific visualization for exploring geographic data.			
	Prereq: Honors standing, or permission of instructor. Not open to students with credit for 3900 (420) or 410H. GE nat sci phys and soc sci human, nat, and econ resources course.				Prereq: A grade of C- or above in 5200 or 5200S.			
3980	Biogeography: An Introduction to Life on Earth	U	3		5210	Fundamentals of Geographic Information Systems	U G	3
	The patterns and processes responsible for the global distribution of Earth's flora and fauna; the inter-relationship between biota and soils; climate and topography will be emphasized.				Basic principles of geographic and land information systems and their use in spatial analysis and information management.			
	Prereq: Not open to students with credit for 490.				Prereq: Not open to students with credit for 5220 (607), CRPlan 5001 (607), or CivilEn 5001 (607).			
4100	Geographic Inquiry	U	3		5212	Geospatial Databases for GIS	U G	3
	History of geographic thought; covers major advances and debates in theory and method, and outlines major contributions of geographic research. This is a capstone course for Geography majors in Environment & Society and Urban, Regional, and Global Studies specializations.				Focuses on designing, implementing, querying and managing spatial databases or persistent data stores where most entities have footprints in geographic space and time. This is critical for designing and implementing GIS for projects and organizations. It is also crucial for moving beyond GIS to the bigger world of geographic information services.			
	Prereq: Not open to students with credit for 600.				Prereq: A grade of C- or above in 5210 and CSE 1114.			
4101	Undergraduate Research and Professionalization Seminar	U	3		5222	GIS Algorithms and Programming	U G	3
	Introduction to conducting research in geography; practical experience in generating, analyzing, and presenting geographic information; explores fieldwork methods and develops professional skills, including proposal writing.				The theory and algorithms underpinning today's GIS technology and the development of custom GIS applications using the Python programming language.			
	Prereq: 12 semester hours in Geog. Not open to students with credit for 695.				Prereq: A grade of C- or above in 5212.			
4193	Individual Studies in Geography	U	1 - 9		5223	Design and Implementation of GIS	U G	3
	Independent studies on selected Geography related topics.				Practice-oriented development, design, implementation and evaluation of spatial databases, with an emphasis on local problems.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.				Prereq: A grade of C- or above in 5222.			
4194	Group Studies in Geography	U	1 - 3		5225	Geographic Applications of Remote Sensing	U G	3
	Special studies on topics directly related to Geography.				Introduction to the fundamental principles, methods, and geographic applications of remote sensing.			
	Repeatable to a maximum of 15 cr hrs or 5 completions.				Prereq: Not open to students with credit for 5270 (684).			
4998	Undergraduate Research in Geography	U	1 - 9		5226	Spatial Simulation and Modeling in GIS	U G	3
	Undergraduate research on topics in Geography.				Fundamental modeling and simulation techniques in GIS, including cellular automata, diffusion models, and agent-based models, and their applications in social, environmental, and natural resources research.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.				Prereq: Not open to students with credit for 5221 or 685.			
4998H	Undergraduate Research in Geography	U	1 - 9		5229	Emerging Topics in GIS	U G	3
	Undergraduate research on topics in Geography.				Examination of major recent developments in the theories, technologies, and/or applications of geographical information science.			
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.				Prereq: A grade of C- or above in 5210. Not open to students with credit for 5224. Repeatable to a maximum of 15 cr hrs.			
4999	Thesis Research	U	1 - 9		5300	Geography of Transportation	U G	3
	A program of research which includes individual conferences and which culminates in a thesis.				Relation between transportation and spatial organization; selected analytical models dealing with traffic demand, network configuration, and allocation of transport facilities; application to selected problems.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.				Prereq: Not open to students with credit for 645.			
4999H	Honors Thesis Research	U	1 - 9		5301	Sustainable Transportation	U G	3
	A program of research which includes individual conferences and which culminates in an honors thesis and an oral defense.				Sustainable transportation generates accessibility while minimizing harm to people and the natural environment. This course examines the problems associated with transportation, including climate change, air quality, non-renewable resources, safety, congestion and social equity. We will also examine solutions to these problems, including pricing, planning, policy and technology.			
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.				5401	Economies, Space, and Society	U G	3
5100	Spatial Data Analysis	U G	3			A theoretical and substantive examination of economic geography; the interface of the economy with society, politics, and culture; and multiple expressions of capitalism.		
	An introduction to spatial data analysis in geography: the fundamental statistical and spatial analysis methods used in quantitative geographic research.				Prereq: Not open to students with credit for 640.			

5402 Land Use Geography	U G	3	5941 Synoptic Meteorology: Synoptic Analysis and Forecasting	U G	3
Causes and consequences of recent regional and national land-use changes; urban decentralization, suburbanization of jobs and people; changing relationships between economic activity and the environment.			The theory and practice of weather forecasting. Theory and practice in synoptic weather analysis and forecasting.		
Prereq: Not open to students with credit for 655.			Prereq: 5940 (620) or AtmosSc 5940 (620). Not open to students with credit for 623.01.		
5501 Urban Spaces in the Global Economy	U G	3	5942 Synoptic Meteorology: Severe Storm Forecasting	U G	3
An examination of social, economic, cultural and political processes that produce urban space in local, national and global terms.			The theory and practice of weather forecasting. The theory and application of radar and satellite imagery in weather forecasting; emphasis on severe thunderstorms, tornadoes, and hurricanes; analysis of their evolution and structure.		
Prereq: Not open to students with credit for 650.			Prereq: 5941 (623.01). Not open to students with credit for 623.02.		
5502 The Neoliberal City	U G	3	7101 Research Design	G	3
Neoliberal governance of cities affecting cultural, civic, and environmental politics; urban geographies of difference; politics and social economy of global cities; the uneven landscape of access and opportunity; shadow governance; and the built form.			Introduction to research procedures, problem formulation, and application of research techniques in geography.		
Prereq: Not open to students with credit for 652.			Prereq: Grad standing in Geog, or permission of instructor. Not open to students with credit for 795.		
5503 Urban China: Space, Place and Urban Transformation	U G	3	7102 Fieldwork in Human Geography	G	3
Examines geography of China's urban transformations since 1911. Topics include: politics of urban design, political economy of land development, place-making projects, suburbanization, and consumption and spectacle.			Methods for generating and interpreting field data; contested history and ethical challenges of fieldwork in human geography.		
Prereq: Not open to students with credit for 643. GE soc sci orgs and polities course.			Prereq: Not open to students with credit for 800.01 or 870.01.		
5601 Foucault, Power, Governance	U G	3	7193 Individual Studies in Geography	G	1 - 15
Governance and society from a geographic perspective using Foucault's governmentality framework.			Independent studies on selected Geography related topics.		
Prereq: Not open to students with credit for 643. GE soc sci orgs and polities course.			Prereq: Permission of instructor. Repeatable to a maximum of 75 cr hrs or 5 completions. This course is graded S/U.		
5602 Conflict, Power & Politics in the City	U G	3	7194 Group Studies in Geography	G	1 - 3
The changing politics of space in cities: class, neighborhood, and workplace in the industrial and the post-industrial city.			Special studies on topics directly related to Geography.		
Prereq: Not open to students with credit for 660.			Repeatable to a maximum of 15 cr hrs or 5 completions.		
5700 Geography of Development	U G	3	7999 Thesis Research	G	1 - 9
Political economy of development; development theory; the historical geography of capitalist development; and contemporary development practices and strategies.			Thesis Research.		
Prereq: Not open to students with credit for 642.			Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.		
5751 New Worlds of Latin America	U G	3	8100 Development of Geographic Thought	G	3
Exploration of ongoing debates about achieving socially equitable and environmentally sustainable change in Latin America; emphasizes case studies and personal narratives from the lowland tropics.			The evolution of concepts concerning the nature, scope, and methodology of geography; present focus and trends as reflected in current literature.		
Prereq: Not open to students with credit for 605.			Prereq: Not open to students with credit for 882.		
5797 Study at a Foreign Institution	U G	1 - 9	8102 Advanced Spatial Data Analysis	G	3
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.			Application of quantitative methods to geographic problems; spatial statistics, area sampling, maps of residuals, regionalization methods, and simulation maps.		
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: 5100. Not open to students with credit for 883.02.		
5801 Environmental Conservation	U G	3	8104 Special Topics in Quantitative Geography	G	3
Conservation of nature; nature-society theory; conflicts around environmental change and contemporary conservation programs and strategies.			Applications of advanced mathematical and statistical models to problems in geographical analysis.		
Prereq: Not open to students with credit for 630.			Prereq: 8102 or 883.01 or 883.02. Repeatable to a maximum of 15 cr hrs.		
5802 Globalization and Environment	U G	3	8109 Graduate Student Professionalization	G	3
Transnational dimensions of changes to the natural environment; ways that global economic activity, international institutions, and global environmentalism contribute to environmental problems and solutions.			Introduction to professional experience for graduate students.		
Prereq: Not open to students with credit for 635.			Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.		
5900 Weather, Climate, and Global Warming	U G	3	8200 Frontiers in Geographic Information Science	G	3
An introduction to the fundamental physical and mathematical principles governing both day-to-day weather and the average of weather, or climate. Objectives are to understand the physical processes of the earth-atmosphere system, describe its weather features and climate characteristics today, and outline how they might change in the future as a result of global warming.			Readings and research in geographic information science.		
Prereq: Not open to students with credit for 520 or AtmosSc 2940 (230).			Repeatable to a maximum of 15 cr hrs or 5 completions.		
5921 Microclimatology: Boundary Layer Climatology	U G	3	8400 Issues in Critical Human Geography	G	3
Theory of exchanges of energy and mass at the Earth-atmosphere interface as it relates to microclimates with particular emphasis upon radiation and climate.			Course engages a variety of theoretical and epistemological issues in critical human geography. Specific topics vary.		
Prereq: 5900 (520) or AtmosSc 2940 (230) or permission of instructor; and Physics 1250. Not open to students with credit for 622.01.			Repeatable to a maximum of 15 cr hrs or 5 completions.		
5922 Microclimatology: Microclimatological Measurements	U G	3	8502 Seminar in Urban Geography: Urban Systems Analysis	G	3
Practical experience in the fabrication of instruments, deployment of measurement systems in the field, and recording of data related to microclimates.			The development of theory in urban geography and its application to selected problems in urban systems analysis.		
Prereq: 5921 (622.01). Not open to students with credit for 622.02.			Repeatable to a maximum of 15 cr hrs or 5 completions.		
5940 Synoptic Meteorology Laboratory	U G	2	8601 Seminar: Theory of Political Geography	G	3
Introduction to reading and interpretation of synoptic weather maps and diagrams- and data-communications systems.			The development of theory in political geography and its application to selected problems.		
Prereq: 5900 (520) or AtmosSc 230 or 2940 (230) or permission of instructor; and Physics 132 or its successor. Not open to students with credit for 620 or AtmosSc 620 or AtmosSc 5940. Cross-listed in AtmosSc.			Repeatable to a maximum of 15 cr hrs or 5 completions.		
			8901 Seminar: Problems in Climatology	G	3
			Problems in climatology.		
			Repeatable to a maximum of 15 cr hrs.		
			8960 Seminar: Special Problems in Physical Geography	G	3
			Special problems in physical geography.		
			Repeatable to a maximum of 15 cr hrs. This course is graded S/U.		
			8999 Research in Geography: Dissertation	G	1 - 9
			Research for dissertation purposes only.		
			Repeatable to a maximum of 75 cr hrs or 5 completions. This course is graded S/U.		

214 German

1101.01 German I U 4

Introduction to language and culture of the German-speaking world, with emphasis placed on the acquisition of basic communication skills in cultural context. CEFR Levels A1/A2. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 2 or more years of study in this language in high school, except by permission of instructor.

Prereq: Not open to students with credit for 1101.51. This course is available for EM credit. GE for lang course.

1101.51 German I - Self-Paced U 1 - 4

Content of German 1101.01 in self-paced format for independent learners of German. CEFR Levels A1/A2. Progress is sequential from 1 cr hr to the next, with proficiency at the level of 80% required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 2 or more years of study in high school, except by permission of instructor.

Prereq: Not open to students with credit for 1101.01. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course.

1101.61 Beginning German I (Self-Paced Distance Learning) U 1 - 4

German 1101.61 is an online version of German 1101. This course allows students to work through the first of Ohio State's 3-course introductory German sequence at their own pace. Students will learn to write, read, listen to and speak German, completing work independently with materials and instructor support.

Prereq: Not open to students with credit for 1101.01 or 1101.51. Repeatable to a maximum of 4 cr hrs. This course is available for EM credit. GE for lang course.

1102.01 German II U 4

Continued development of German-language skills and cultural knowledge for effective communication. Emphasis on more advanced language structures, sustained interactions, reading and writing. CEFR Levels A2/B1. Not open to native speakers of this language through regular course enrollment or EM credit.

Prereq: 1101.01, or 4 sem cr hrs of 1101.51, or concur: 1101.01, or 1101.51; or permission of instructor. Not open to students with credit for 1102.51. This course is available for EM credit. GE for lang course.

1102.51 German II - Self-Paced U 1 - 4

Content of German 1102.01 in self-paced format for independent learners of German. CEFR Levels A2/B1. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit.

Prereq: 1101.01, or 4 cr hrs of 1101.51; or concur: 1101.01, or 1101.51; or permission of instructor. Not open to students with credit for 1102.01. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.01 German III U 4

Development of skills for independent use of German. Discussions, presentations, writing & listening/viewing activities that address topics of the contemporary German-speaking world. CEFR Level B1. Not open to native speakers of this language through regular course enrollment or EM credit.

Prereq: 1102.01, or 4 sem cr hrs of 1102.51, or 1266, or concur: 1102.01, or 1102.51, or permission of instructor. Not open to students with credit for 1103.51. This course is available for EM credit. GE for lang course.

1103.51 German III - Self-Paced U 1 - 4

Content of German 1103.01 in self-paced format for independent learners of German. CEFR Level B2. Progress is sequential from one cr hr to the next, with proficiency at the level of 80% required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit.

Prereq: 1102.01 or 1266, or 4 cr hrs of 1102.51; or concur: 1102.01, 1102.51, or 1266; or permission of instructor. Not open to students with credit for 1103.01. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1266 German Review U 4

Review and practice of important skills and concepts from German 1101 and 1102 needed for entry into German 1103.01 or German 1103.51.

Prereq: Two or more years of study in German in high school, and the placement test; or permission of instructor. Not open to students with credit for 1101.01, 1101.51, 1102.01, or 1102.51; or to native speakers of German through regular course enrollment or EM credit. GE for lang course. FL Admis Cond course.

2101 Texts and Contexts I: Contemporary German Language, Culture and Society U 3

Development of communication skills and knowledge about recent social, cultural, and political developments in German speaking countries through texts, media and film; CEFR level A2/B1. Closed to native speakers of this language.

Prereq: 1103 or 1103.51, or equiv, or permission of instructor. No audit. FL Admis Cond course.

2102 Texts and Contexts II: 20th-Century German Language, History and Culture U 3

Continued development of communication skills; gain an understanding of major social and cultural developments in 20th century German history through texts, media, film. CEFR level B1.

Prereq: 2101 or equiv, or permission of instructor. FL Admis Cond course.

2193 Individual Studies

U 1 - 4

Individual investigation of minor problems in German language and literature.

Prereq: Permission of Chairperson. Repeatable to a maximum of 16 cr hrs or 4 completions. This course is progress graded (S/U).

2194 Group Studies

U 1 - 15

Investigation of minor problems in German literature and language.

Prereq: Permission of Chairperson. Repeatable to a maximum of 16 cr hrs or 4 completions.

2250 Berlin: Stories, Languages, and Ideas

U 3

The roles Berlin played in Europe's and the world's major upheavals, from the Thirty Years' War to the Fall of the Wall in 1990, and insight into the increasing internationalization of Berlin from three perspectives: stories told by and about Berlin's citizens; philosophical & scientific ideas generated in Berlin; and multilingual dialects and variations. GE lit and diversity global studies course.

2251 German Literature and Popular Culture

U 3

Study of popular culture forms in relation to the artistic, intellectual, historic, and literary traditions of the German-speaking world. Taught in English.

Repeatable to a maximum of 9 cr hrs. GE lit course.

2252H The Faust Theme

U 3

Major versions of the Faust story, their socio-cultural context, and their symbolic expression of recurring human concerns. Taught in English.

Prereq: Honors standing, and English 1101.01 (110) or equiv; or permission of instructor. Not open to students with credit for 263H. GE lit and diversity global studies course. EN Admis Cond course.

2253 Magic, Murder and Mayhem

U 3

Origins and highlights of German culture and life to 1648 as reflected in literary and poetic works, Germanic mythology, religion, and the arts.

Prereq: Not open to students with credit for 291. GE lit and diversity global studies course.

2254 Grimms' Fairy Tales and their Afterlives

U 3

Working to understand the meaning and the enduring appeal of one of Germany's greatest successes in the realm of cultural exportation - the Grimms' fairy tales, a book whose circulation figures are exceeded in Western culture only by those of the Bible. To explore their reach, we will also compare them to their adaptations in literature and film, from dark to Disney. GE lit course.

2255 Postwar Culture in Germany and Japan

U 3

This course will examine postwar culture in Germany and Japan, looking at films, theoretical texts, memoirs, manifestos, and literary works, subjecting our material to cross-cultural analysis that should deepen as our basis for comparison expands. Team-taught with faculty in Japanese.

Prereq: Not open to students with credit for Japanese 2255. Cross-listed in German. GE cultures and ideas course.

2256 Fan Fiction: From Homer to Harry Potter

U 3

Enthusiastic readers of Harry Potter write sequels, prequels, and spinoffs and post them online every day. But writing fan fiction is far from new. In this course, we will investigate the surprising history of this literary form. We'll analyze works of fan fiction, asking how ideas of originality, authorship, and intellectual property influence art and literature. GE lit course.

2350 Introduction to German Studies

U 3

Overview of the development of German cultures, history, ideas, and art from the Middle Ages to the present in a transnational context. An ideal course for students considering a major or minor in German or for those with a general interest in German culture. Introductions to analytical methods also provide students with tools for analyzing everything from medieval sagas to television shows. GE cultures and ideas course.

2352 Development of Contemporary Germany: Dresden Yesterday and Today

U 3

Introduction to German life and culture, past and present, including the new federal states; taught within summer study abroad program with students experiencing German culture first hand.

Prereq: 1102 or 1102.51. Not open to students with credit for 275. GE cultures and ideas and diversity global studies course. FL Admis Cond course.

2367 German Literature and American Culture

U 3

German perspectives on and in 20th-century American culture. Influence of German thought and writings on American culture; German views of American culture. Taught in English.

Prereq: English 1110.01, 1110.02, and 1110.03 or equiv. Not open to students with credit for 367. GE writing and comm course: level 2. EN Admis Cond course.

2451 Hollywood: Exiles & Emigres

U 3

German cinema has played an influential role in the development of international film genres. In this class we look at examples of films made in Hollywood that bear the stamp of German influence. We also look at films made in Germany that show that influence flows in both directions. This course assumes no prior knowledge of German, German films, or film theory in general. Taught in English.

Prereq: Not open to students with credit for 671. GE VPA course.

2798.02 Berlin, Then and Now: People, Places, and Experiences	U	3
Students will explore and experience the cosmopolitan and increasingly diverse Berlin by learning about some of the most influential or memorable persons who live or have lived in the city—from its establishment as a capital of the Prussian Kingdom in the 18th century to its present role as capital of a reunified, democratic Germany and a center of European and global politics and culture.		
GE diversity global studies and education abroad course.		
3101 Texts and Contexts III: Historical Perspectives		
Development of intermediate/advanced communication skills; broadening of cultural and historical knowledge through interaction with literary and non-literary materials informed by historical perspective; CEFR level B1/B2.	U	3
Prereq: 2102 or equiv., or permission of instructor. FL Admis Cond course.		
3102 News and Views: Conversations about Current Issues in the German-Speaking World	U	3
This course will inform students about events, issues, and trends in the German-speaking world today, and improve their German language skills. Students will expand their ability to gather information about current events from German-language sources (print, audio, and video); to summarize and analyze these sources; and to speak and write formally and informally about current events.		
Prereq: 2102 or equiv., or permission of instructor.		
3200 Topics in German Literature, Art and Film	U	3
Focused exploration of topics in German literature, art, and film as expressions of culture in a transnational context, aimed at improving students' critical comprehension and communication skills.		
Prereq: 2102 or equiv., or permission of instructor. Repeatable to a maximum of 6 cr hrs. Admis Cond course.		
3252 The Holocaust in German Literature and Film	U	3
Reading, analysis, and discussion of representative works pertaining to the Holocaust from the perspective of German literature and film. Taught in English.		
Prereq: Not open to students with credit for 399 or Yiddish 399. GE lit and diversity global studies course.		
3253 The German Experience in North America	U	3
Introduction to literature, culture, and history of German immigrants to North America, especially to the Midwest and Ohio, from the seventeenth century into the twenty-first.		
Prereq: Not open to students with credit for 360. GE cultures and ideas course.		
3254H Representations and Memory of the Holocaust in Film	U	3
Students will view, discuss, and examine major filmic representations of the Holocaust from several countries from the 1940s through the 1990s. Students will learn how these films have contributed to our understanding of a complex phenomenon of WWII and how the directors have coped with the thorny issues of representing something that many people consider to be unrepresentable. Taught in English.		
Prereq: Honors, and Soph, Jr, or Sr standing, or permission of instructor. GE VPA and diversity global studies course.		
3256 Coming to Terms with the Holocaust and War in Germany: Vergangenheitsbewältigung	U	3
Dedicated to examining how postwar Germans came to terms with war and the Holocaust by looking at various responses in several genres, from philosophy and public debates to poems and films. Students will be confronted with difficult historical, aesthetic, and ethical issues in the various German responses to the Holocaust. Taught in English.		
GE cultures and ideas course.		
3300 Topics in German Culture Studies, Social and Intellectual History	U	3
Focused exploration of topics in the development of German-language culture and intellectual history. Content geared toward improving students' critical comprehension and communication skills in German.		
Prereq: 2102 or equiv.; or permission of instructor. Repeatable to a maximum of 6 cr hrs. Admis Cond course.		
3351 Democracy, Fascism and German Culture	U	3
Culture of the Weimar Republic and Nazi Germany in literature, film, the other arts; the roots of fascism and its echoes in postwar Germany. Taught in English.		
Prereq: Not open to students with credit for 299. GE cultures and ideas and diversity global studies course.		
3353H German Intellectual History: Marx, Nietzsche, and Freud	U	3
Marx, Nietzsche, and Freud are essential for understanding intellectual thought in the late nineteenth and twentieth century. They have retained their importance into the twenty-first century. The focus of the course will be the way in which Marx, Nietzsche, and Freud reconceived the notion of history, historical progress, and historiography.		
Prereq: Honors standing, GE cultures and ideas course.		
3600 Topics in German Linguistics/Language	U	3
Understanding the German language in its historical development, standardization and its contemporary manifestations. Systematic overview of German phonetics, phonology, morphology, syntax, and varieties of modern German.		
Prereq: 2102 or equiv., or permission of instructor. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.		

3602 German for the Professions I	U	3
Development of cultural knowledge and communication skills for the professions; introduction to the world of German business through audio, video, print materials; CEFR level B1-B2.		
Prereq: 2102 or equiv., or permission of instructor. Not open to students with credit for 202. No audit. Admis Cond course.		
3603 Translation I		
German-English/English-German translation; focus on everyday language; emphasis on improvement of grammar and development of vocabulary; discussion of common translation techniques, introduction to theories of translation.		
Prereq: 2102 or equiv., or permission of instructor. Not open to students with credit for 303. Admis Cond course.		
4191 Internship in German	U	3 - 6
Supervised internship arranged and approved in advance with the faculty advisor. Notify the chair no later than 6 months before the start of the internship.		
Prereq: 3000-level German course, or permission of instructor. Not open to students with credit for HumCol 489. This course is graded S/U.		
4194 Undergraduate Group Studies	U	1 - 4
Investigation of minor problems in the various fields of German literature and philology.		
Prereq: Permission of chairperson. Repeatable to a maximum of 16 cr hrs or 4 completions.		
4200 Senior Seminar in German: Literature, Art and Film (German)	U	3
Focused exploration of topics in German literature, art, and film as cultural expressions within transnational contexts, to improve students' historical knowledge, skills for exploring cultural and critical-intellectual traditions. Taught in German. Counts toward fulfillment of advanced requirement for the major.		
Prereq: 3101, and one course at the 3000 level, and Sr standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
4250 Senior Seminar in German Studies: Literature, Art and Film (English)	U	3
Exploration of topics in German literature, art, and film as cultural expressions within transnational contexts, aimed at improving students' historical knowledge, skills for exploring cultural and critical-intellectual traditions. Counts toward fulfillment of advanced requirement for the major. Taught in English.		
Prereq: Jr or Sr standing. FL Admis Cond course.		
4300 Senior Seminar in German: Culture Studies, Social and Intellectual History (German)	U	3
Exploration of topics in German intellectual history and the history and theory of German culture. Taught in German. Counts toward fulfillment of advanced requirement for the major.		
Prereq: 3101, and one course at the 3000 level, and Sr standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.		
4600 Senior Seminar in German: Linguistics/Language (German)	U	3
Seminar on aspects of the German language. Variable topics may include: structure, history, and variation of the German language; studies of German language acquisition; methods of the field of Germanic Linguistics and Philology. Taught in German.		
Prereq: 3101, 3600, or equiv., and Sr standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.		
4602 German for the Professions II	U	3
Continued development of cultural knowledge and communication skills in German; study of business trends, traditions, and structures through audio, video, print materials; CEFR level B1-B2.		
Prereq: 3602 or equiv., or permission of instructor. Not open to students with credit for 302. FL Admis Cond course.		
4603 Translation II	U	3
German-English/English-German translation; focus on literary language; emphasis on improvement of style; discussion of major theories of translation.		
Prereq: 2102 and 3603, or equiv., or permission of instructor. FL Admis Cond course.		
4998 Undergraduate Research Projects	U	1 - 3
Investigation of problems in various fields of Germanic studies.		
Prereq: Permission of adviser or Graduate Studies Committee chair as applicable. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is progress graded (S/U).		
4998H Honors Undergraduate Research Projects	U	1 - 9
Investigation of problems in various fields of Germanic studies.		
Prereq: Honors standing and signature of honors advisor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is progress graded (S/U).		
4999 Undergraduate Research Thesis	U	1 - 4
Research for undergraduate thesis.		
Prereq: Permission of undergraduate thesis advisor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.		
4999H Honors Undergraduate Research Thesis	U	1 - 4
Research for Honors Undergraduate research thesis.		
Prereq: Honors standing, permission of instructor, and required signature of undergraduate Honors Thesis advisor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.		

216 German

5193	Independent Studies for Advanced Students	U G	1 - 3	7888	Interdepartmental Seminar	G	3
	Independent investigation of issues in various fields of Germanic Studies.				Two or more departments present seminars on subjects of mutual interest; topics to be announced.		
	Prereq: Permission of Director of Undergraduate Studies or the Director of Graduate Studies, as applicable. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.				Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. Admis Cond course.		
5194	Group Studies	U G	1 - 3	8189	Field Experience and Field Work	G	3
	Investigation of minor problems in the various fields of German literature and philology.				Opportunity for advanced graduate students to plan and teach in conjunction with faculty member a course at 2000 or higher level.		
	Prereq: Permission of chairperson. Repeatable to a maximum of 9 cr hrs or 3 completions.				Prereq: Signature of Graduate Studies Committee chair and instructor. Repeatable to a maximum of 6 cr hrs. This course is progress graded (S/U). Admis Cond course.		
5797	Study at a Foreign Institute	U G	1 - 9	8193	Independent Studies for Doctoral Students	G	1 - 12
	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.				Research for the doctoral candidacy examination.		
	Prereq: Permission of chairperson. Repeatable to a maximum of 27 cr hrs or 9 completions. This course is progress graded (S/U).				Prereq: Permission of the doctoral advisor and Director of Graduate Studies. Repeatable. This course is graded S/U.		
6101	Basic German for Graduate Students	G	3	8200	Seminar in Literature and Literary Culture	G	3
	The fundamentals of German grammar, as required for the reading of German texts in the sciences, social sciences, and humanities. No audit. Credit does not apply to the minimum hours required for the master's or doctoral degrees.				Topics vary in focus and methodology; emphasis may range from individual authors, periods, or themes to theoretical and interdisciplinary issues; research paper. 3-hr cl.		
	Prereq: Grad standing. Not open to students with credit for 571.				Prereq: 6200, or Grad standing, or permission of instructor. Repeatable to a maximum of 30 cr hrs. Admis Cond course.		
6102	German for Research	G	3	8300	Seminar in Intellectual History and Cultural Studies	G	3
	Reading of difficult material at a reasonable rate of speed and with only infrequent use of dictionaries. No audit. Credit does not apply to the minimum hours required for the master's or doctoral degrees.				Concepts, representations, and institutions of German culture in an international context; German intellectual history; theories of literature, arts, and culture.		
	Prereq: A grade of C or above in 6101, or Grad standing, or equiv preparation demonstrated by placement test. Repeatable to a maximum of 6 cr hrs. Admis Cond course.				Prereq: 6200, or Grad standing, or permission of instructor. Repeatable to a maximum of 30 cr hrs. Admis Cond course.		
6193	Independent Studies for Master's Students	G	1 - 8	8400	Seminar in Film, Visual Culture and the Performing Arts	G	3
	Independent investigation of issues in German literature, culture, intellectual history, and linguistics.				Advanced graduate seminar allowing students to broaden their engagement with non-literary culture based in German-speaking texts and to conduct research into targeted areas of interest.		
	Prereq: Permission of the instructor and Director of Graduate Studies. Repeatable. This course is graded S/U.				Prereq: 6200, or Grad standing, or permission of instructor. Repeatable to a maximum of 30 cr hrs. Admis Cond course.		
6200	Introduction to German Literary History and Analysis	G	3	8500	Doctoral Colloquium	G	1
	Lecture-based introduction to the methodology and tools of literary scholarship and to major contemporary theoretical approaches to literary studies; contextualization of these methodologies and approaches within literary history.				Regular student-driven discussions of ongoing dissertations, current topics in the professional field, and new research approaches to Germanic Studies.		
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 702.				Prereq: Successful completion of Ph.D. candidacy exams, or permission from Director of Graduate Studies and instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U. Admis Cond course.		
6300	Introduction to Intellectual History and Cultural Studies	G	3	8501	Graduate Student Teaching Apprenticeship	G	3
	Graduate introduction to important figures, topics, and periods within German intellectual history. Interactions with the larger European context of intellectual history and with other cultural spheres in Germany.				Opportunity for advanced graduate students to plan and teach in conjunction with faculty member a course at 2000 or higher level.		
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 703.				Prereq: Grad standing, and a minimum of one year experience as GTA. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
6400	Introduction to German Film	G	3	8600	Seminar in Linguistics and Applied Linguistics	G	3
	Graduate introduction to German arts concentrating on moving images and non-text-based forms. Overview of visual-aesthetic movements and film history since 1900 in context. Fundamentals of analysis for film and visual media.				Explore the structure, historical development, use of German and its social and dialectal variations. Practical application of the knowledge gained to the teaching of German.		
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 672.				Prereq: 6600. Repeatable to a maximum of 30 cr hrs. Admis Cond course.		
6600	Introduction to Teaching and Learning German at the College Level	G	4	8999	Dissertation Research	G	1 - 3
	Developing an understanding of communicative language teaching and second language acquisition as it applies to German. Overview of instructional strategies and techniques for various modalities.				Research for dissertation purposes.		
	Prereq: Open to Graduate Teaching Associates enrolled in the Department of Germanic Languages and Literatures; all others by permission of instructor. Not open to students with credit for 840.				Prereq: Permission of the dissertation advisor and Director of Graduate Studies. Repeatable. This course is graded S/U.		
6601	Teaching Practicum	G	1				
	This course is for GTAs who are teaching a 1000-level German language class. The course provides graduate students with instruction and practice in designing and implementing instructional materials for their undergraduate classes. It offers best practices in creating tests, developing speaking portfolios, designing culture components, and becoming reflective practitioners.						
	Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.						
6700	Introduction to the Language Sciences	G	3				
	Provides students with a general overview of linguistics and surveys the areas covered by the specialization: Language and Cognition, Language and Brain Function, Language and Society, Language and Technology, and Language Description and Fieldwork. Guest faculty will present in their areas of expertise and students will read and prepare assignments in multiple areas.						
	Prereq: Not open to students with credit for Psych 6700. Cross-listed in Psych.						
6999	Master's Research	G	1 - 6	7189	Graduate Research or Field Study	G	0
	Research for the Master's Assessment.				For graduate students pursuing off-campus field experiences, study or research without using university resources or faculty time.		
	Prereq: Permission of the master's advisor and Director of Graduate Studies. Repeatable to a maximum of 24 cr hrs or 4 completions. This course is graded S/U.				Prereq: Permission of instructor. This course is graded S/U.		

Graduate School

4501	Graduate Study and Academic Careers	U	1 - 4
	Exploration of graduate study and academic careers.		
	Prereq: Not open to students with credit for 501. This course is graded S/U.		
6701	Preparing Future Faculty	G	1 - 3
	Mentorship and professional development activities in conjunction with partner institutions. Students must successfully complete application process and be admitted.		
	Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.		
7189	Graduate Research or Field Study	G	0
	For graduate students pursuing off-campus field experiences, study or research without using university resources or faculty time.		
	Prereq: Permission of instructor. This course is graded S/U.		
8999	Research: Interdisciplinary	G	1 - 12
	Interdisciplinary doctoral dissertation research approved by the Graduate School for One-of-a-Kind programs.		
	Repeatable. This course is progress graded (S/U).		

Greek

1101 Elementary Ancient Greek

U 5

Introduction to the language of the ancient Greek authors and the New Testament. Not open to students with 3 or more years of study in this language in high school, except by permission of department.

Au Sem. Prereq: Not open to students with credit for 102. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102 Intermediate Ancient Greek I

U 5

Intermediate Ancient Greek I.

Sp Sem. Prereq: 1101. Not open to students with credit for 103. This course is available for EM credit. GE for lang course. FL Admis Cond course.

2101 Attic Prose

U 3

Readings in Attic prose authors such as Plato, Xenophon or Lysias.

Prereq: 1103 or equiv, or permission of instructor. Not open to students with credit for 221.

2102 Homer

U 3

Selected readings from the Iliad or Odyssey.

Prereq: 1103 or equiv, or permission of instructor. Not open to students with credit for 223.

2103 The Greek Historians

U 3

Readings from Herodotus, Thucydides or Xenophon.

Prereq: 1103 or equiv, or permission of instructor. Not open to students with credit for 224.

2104 Greek Tragedy

U 3

Readings from the tragedies of Sophocles or Euripides.

Prereq: 1103 or equiv, or permission of instructor. Not open to students with credit for 222 and 225.

2110 The Greek New Testament

U 3

Studies the language of the Greek New Testament through selected reading passages.

Prereq: 1103 or equiv, or permission of instructor. Not open to students with credit for 210.

2193 Individual Studies

U 1 - 9

Intermediate readings in Greek literature.

Prereq: 1103 or equiv, or permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

4998 Research

U 1 - 3

A program of study arranged for each student.

Prereq: Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4998H Honors Research

U 1 - 3

A program of study arranged for each student.

Prereq: Honors standing, and Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4999 Thesis Research

U 1 - 6

A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in Greek.

Prereq: Jr standing or above, and Enrollment in Classics Major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.

4999H Honors Thesis Research

U 1 - 6

A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in Greek.

Prereq: Honors standing, Jr standing or above, and Enrollment in Classics Major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.

5011 Greek Epic

U G 3

Readings from Greek epic poets such as Homer, Hesiod, or Apollonius of Rhodes.

Prereq: Two courses at the 200 level, or Grad standing, or permission of instructor. Not open to students with credit for 607.

5016 Readings in Greek Philosophy

U G 3

Readings from Greek philosophers, such as Plato or Aristotle, or arranged according a common topic, such as Presocratic philosophy or ethics.

Prereq: Two courses at 200 level, or Grad standing, or permission of instructor. Not open to students with credit for 609.

5017 Later Greek Prose

U G 3

Readings in late antique and Byzantine Greek prose authors.

Prereq: Two courses at 2000 level, or Grad standing, or permission of instructor.

5193 Individual Studies

U G 1 - 9

A program of study arranged for each student, with specific passages for reading and topics from Greek literature, culture or religion for investigation.

Prereq: Two courses at 2000 level, or Grad standing, or permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

5194 Group Studies

U G 1 - 9

A program of study arranged for a small group of students, with specific passages for reading and topics from Greek literature, culture or religion for investigation.

Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

6891 Greek Survey: Prose

G 5

Survey of Greek prose literature from its beginning to late antiquity focusing on language competence and literary history. Offered Autumn Semester in alternation with Latin 6891.

Au Sem. Prereq: Two courses at 2000 level, or Grad standing, or permission of instructor. Not open to students with credit for 701.

6892 Greek Survey: Poetry

G 5

Survey of Greek Poetry from Homer to late antiquity focusing on language competence and literary history. Offered Spring Semester in alternation with Latin 6892.

Sp Sem. Prereq: Two courses at 2000 level, or Grad standing, or permission of instructor. Not open to students with credit for 702.

6893 Greek Prose Composition

G 3

A course on writing Greek prose.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 802.

7193 Individual Studies

G 1 - 9

Assigned reading of Greek authors or topics of Greek culture to help with language requirements or to prepare for exams.

Au, Sp, Su Sems. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

7890 Graduate Seminar on Greek Literature and Culture

G 1 - 3

Graduate research seminar on topics in the study of Greek literature, culture or religion.

Prereq: Grad standing. Repeatable to a maximum of 30 cr hrs or 15 completions.

7891 Graduate Seminar on Greek Linguistics

G 1 - 3

Graduate research seminar on Greek linguistics.

Prereq: Grad standing. Repeatable to a maximum of 30 cr hrs or 15 completions.

8999 Dissertation Research

G 1 - 9

Readings and discussions connected with the writing of a dissertation on a topic of Greek literature and culture.

Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

Health and Rehabilitation Sciences

1100.01 Health and Rehabilitation Sciences Survey

U 1

Introduction to the University, the School of Health and Rehabilitation Sciences and its academic programs. Emphasis on strategies for success, resources and procedures.

Prereq: Must be enrolled in Pre-HthRhSc. This course is graded S/U.

1100.01H Health and Rehabilitation Sciences Honors Survey

U 1

Introduction to the University, the School of Health and Rehabilitation Sciences and its academic programs. Emphasis on strategies for success, resources and procedures.

Additional emphasis on requirements for Honors participation.
Prereq: Honors standing, and enrollment in Pre-HthRhSc. This course is graded S/U.

1100.02 Health and Rehabilitation Sciences Survey - Transfer Student

U 1

Introduction to the University, the School of Health and Rehabilitation Sciences, and its academic programs. Emphasis on strategies for success, resources, and procedures. Special attention given to transition issues facing Transfer Students.
Prereq: Enrollment in Pre-HthRhSc. This course is graded S/U.

2200 CPR for Healthcare Professionals

U 1

Knowledge, competencies, issues and concerns of health care providers regarding basic life support. Completion of course leads to American Heart Association certification Basic Life Support-Health Care Provider card.

2300 Service Learning in Vulnerable Communities

U 3

This service-learning course examines vulnerable populations from multiple perspectives including ethnicity, socioeconomic status, mental and physical disability, chronic disease, culture, and the impact on both individual and community health.

Prereq: Not open to students enrolled in the Bachelor of Science in Health Sciences.

2500 Medical Terminology for the Health Professions

U 3

Terminology and abbreviations pertaining to anatomy, physiology, pathology, diagnostic processes/procedures and medical/surgical interventions by body system.
This course is available for EM credit.

2530 The Evolving Art and Science of Medicine

U 3

An analysis of the concepts of health and healing, coupled with an examination of historical developments that have impacted the art and science of the practice of medicine.

Prereq: Not open to students with credit for AlliMed 307. GE cultures and ideas course.

218 Health and Rehabilitation Sciences

2530.01	Evolving Art and Science of Medicine	U	3				
	Students will evaluate works and experiences of art as they reflect on medicine and the science of medicine today and historically. Such studies develop capacities for aesthetic and historical response and judgment; interpretation and evaluation; critical listening, reading, seeing, thinking, and writing.						
3000	Introduction to the Health Sciences Major and Career Opportunities	U	1				
	An introduction to the Health Sciences major, tools for success, and careers in healthcare and health-related services. Prereq: Enrollment in Health Sciences Program. This course is graded S/U.						
3000.01	Introduction to the Health Sciences Major and Career Opportunities	U	1				
	An introduction to the Health Sciences major, tools for success, and careers in healthcare and health-related services. This course is graded S/U.						
3400	Health Promotion and Disease Prevention	U	3				
	Introduction to the concepts and theories involved in health promotion and disease prevention. Prereq: Acceptance into Health Sciences program, or permission of instructor.						
3400.01	Health Promotion & Disease Prevention	U	3				
	Introduction to the concepts and theories involved in health promotion and disease prevention.						
3500	Critical Phases in Life	U	3				
	An examination of humans' development from conception to death and factors critical to continuing health. Prereq: Biology 1101, and one class in Psych.						
3500.01	Critical Phases in Life	U	3				
	An examination of humans' development from conception to death and factors critical to continuing health.						
4000	Application of Ethical Decision Making in Health Care	U	3				
	Examination of ethical theories, bioethical principles, personal ethics, and ethical decision making, using a six-step model for application in the allied health professions.						
4000.01	Ethical Decision Making in Healthcare	U	3				
	Examination of ethical theories, bioethical principles, personal ethics, and ethical decision making, using a six-step model for application in the allied health professions.						
4189	Health Sciences Internship	U	1 - 3				
	Field experience in a health care system highlighting health management, health & wellness, or other health science. This course is graded S/U.						
4193	Undergraduate Independent Study	U	1 - 3				
	Guided study of selected topics. Repeatable to a maximum of 15 cr hrs or 10 completions. This course is progress graded (S/U).						
4193H	Undergraduate Independent Study	U	1 - 3				
	Guided study of selected topics. Prereq: Honors standing, and enrollment in HthRhSc; or permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is progress graded (S/U).						
4300	Contemporary Topics in Health and Society	U	3				
	Offers the opportunity to delve into the current issues and factors that are influencing and shaping both society and health systems. Prereq: Jr or Sr standing, or permission of instructor.						
4300.01	Contemporary Issues in Health & Society	U	3				
	This course offers the opportunity to delve into the current issues and factors that are influencing and shaping both society and health systems and to engage in a process of scholarly exchange around the incubation of ideas to address these current issues.						
4320	Clinical Interviewing & Risk Assessment in Healthcare	U	3				
	Identification and prevalence of health risk behaviors and application of interviewing and counseling techniques designed to affect behavior change incorporating wellness and prevention strategies. Prereq: 3400, Psych 1100, and admission to School of Health and Rehabilitation Sciences.						
4350	Introduction to Legal Concepts in Health Care	U	2				
	Overview of legal concepts affecting practice of healthcare professionals including legal system, professional liability, and laws governing appropriate access and disclosure of patient information. Prereq: 5370, or Jr or Sr standing in HRS, or permission of instructor.						
4370	Community and Policy Influence in Health Care	U	3				
	Review of the principles of community policy in relation to the health professions and professionals. Prereq: 5370.01, or Jr or Sr standing in HRS, or permission of instructor.						
4370.01	Community and Policy Influence in Health Care	U	3				
	Review of the principles of community policy in relation to the health professions and professionals.						
4400	Individual Differences in Patient/Client Populations	U	3				
	Examination of individual differences in patient/client populations from multiple perspectives of disability, chronic disease, healthcare disparity, culture, and the impact on health and wellness. Prereq: Acceptance into Health Sciences program or permission of instructor. Coreq: 3400. Not open to students with credit for AlliMed 655.						
4400.01	Individual Differences in Patient/Client Populations	U	3				
	Examination of individual differences in patient/client populations from multiple perspectives of disability, chronic disease, healthcare disparity, culture and the impact on health and wellness.						
4450	Health Promotion in Practice	U	3				
	Integration of theory and emergent perspectives and applications in health promotion. Students will demonstrate their understanding and application through development of a grant proposal. Prereq: 3400 and 4900, or permission of instructor.						
4450.01	Health Promotion in Practice	U	3				
	Integration of theory and emergent perspectives and applications in health promotion. Students will demonstrate their understanding and application through development of a grant proposal.						
4470S	Teamwork and Leadership in Health Sciences	U	3				
	Gain understanding of leadership and team-building through experience in planned health related activities. Prereq: 4450 and 4950, or permission of instructor.						
4530	Nutrition for Fitness	U	3				
	Introduction to the basic principles of nutrition as they relate to exercise performance and body composition of athletes and the physically active. Prereq: Chem 1100, 1110, 1210, Biology 1101, 1102, 1113, 1114, Physio 3101, or EEOB 2520.						
4530.01	Nutrition for Fitness	U	3				
	Introduction to the basic principles of nutrition as they relate to exercise performance and body composition of athletes and the physically active. Prereq: Soph or Jr standing, and admission to SHRS; or permission of instructor.						
4570	The Role of Integrative Medicine	U	3				
	A research-based analysis of the intersection between evidence-based medicine and complementary and alternative approaches to wellness, as defined by the National Institutes of Health.						
4570.01	The Role of Integrative Medicine in Society	U	3				
	A research-based analysis of the intersection between evidence-based medicine and complementary and alternative approaches to wellness, as defined by the National Institutes of Health.						
4600S	Health after Mid-Life	U	3				
	Study of physical, psychological, and social components of normal aging and chronic disease for optimal aging; open to students interested in career in aging. Prereq: Not open to students with credit for AlliMed 665.						
4900	Evidence-Based Research in Health Sciences	U	3				
	Overview of evidence-based practice as it applies to health care, including formulating relevant clinical questions, finding and evaluating evidence using effective search techniques, and translating research into practice.						
4900.01	Evidence-based Research in Health Care	U	3				
	Overview of evidence-based practice (EBP) as it applies to health care, including formulating relevant clinical questions, finding and evaluating evidence using effective search techniques, and translating research into practice.						
4914	Group Education Process in Healthcare	U	3				
	Health care process: Principles of group education and health counseling as applied to responsibilities of the health care practitioner. Prereq: A grade of B or above in 3400, or permission of instructor.						
4950	Program Development and Evaluation for Health Sciences	U	3				
	Expose the student to practical methods that can be used to develop, and evaluate health services programs in a variety of settings. Prereq: 3400, or permission of instructor.						
4950.01	Program Development and Evaluation for Health Sciences	U	3				
	Expose the student to practical methods that can be used to develop, and evaluate health services programs in a variety of settings. Prereq: 3400, or permission of instructor.						
4998	Undergraduate Research in Health Science	U	1 - 5				
	Guided research by undergraduate students. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.						
4998H	Honors Undergraduate Research in Health Science	U	1 - 5				
	Guided research by undergraduate honors students. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.						

5000	Interdisciplinary Case Management for Working with Underserved Populations	U G	2
Provides students the opportunity to collaborate with students from other health care professions including pharmacy, health and rehabilitation sciences, nursing, medicine and social work. The students will use a problem-based learning approach to patient care in community health, focusing on populations, living in poverty, with complex healthcare needs. Prereq: Enrollment in Medical Dietetics, Medical Laboratory Science, or Respiratory Therapy major, or Grad standing in Physical Therapy, Occupational Therapy, AlliMed, or HthRhSc; or permission of instructor. This course is graded S/U. Cross-listed in Nursing, MedColl, Phr, and SocWork.			
5300	Management Principles and Human Resources for Health Care Professionals	U G	3
An analysis of the management and human resources processes and its application to the health care setting. Prereq: Admission to HRS, or permission of instructor.			
5300.01	Management Principles and Human Resources for the Healthcare Professional	U G	3
An analysis of the management and human resources processes and its application to the healthcare setting.			
5350	Case Studies in Health Sciences	U G	3
Experience in evaluating and analyzing case studies in health care and health services emphasizing applied critical thinking, problem solving and decision-making approaches in leadership. Prereq: Enrollment in HthRhSc, or permission of instructor. Not open to students with credit for AlliMed 604.			
5370	U.S. Healthcare Policy and Delivery System	U G	3
An examination of healthcare delivery and current issues including history, policy, government regulations, legislation, politics, financing, accessibility, workforce and ethics. Prereq: Soph or Jr standing, and admission to HRS; or enrollment in RespThr, RadSci, or HIMS; or permission of instructor.			
5370.01	US Healthcare Policy and Delivery	U G	3
An examination of healthcare delivery and current issues including history, policy, government, regulations, legislation, politics, financing, accessibility, workforce, and ethics.			
5500	Introduction to Pathophysiology	U G	4
Fundamental concepts of pathophysiology including etiology, signs, symptoms, diagnosis, treatment, and complications of major body system disorders. Prereq: EEOB 2520 or Physio 3102, or permission of instructor.			
5500.01	Introduction to Pathophysiology	U G	4
Fundamental concepts of pathophysiology including etiology, signs, symptoms, diagnosis, treatment, and complications of major body system disorders. Prereq: EEOB 2520 or Physio 3102, or permission of instructor.			
5510	Pharmacological Aspects of Practice in Health and Rehabilitation Sciences	U G	2
Fundamentals of pharmacokinetics, pharmacodynamics, drug law, selected medications and treatment methods utilized by allied health professionals. Prior completion of HthRhSc 5500 is recommended. Prereq: Chem 1210, and EEOB 2520 or Physio 3101; or Grad standing; or permission of instructor.			
5510.01	Pharmacological Aspects of Practice in Health and Rehabilitation Sciences	U G	2
Fundamentals of pharmacokinetics, pharmacodynamics, drug law, selected medications and treatment methods utilized by allied health professionals.			
5550	Survey of Sports Medicine	U G	3
Survey of sports medicine for non-professionals. Topics include the sports medicine team; risk management; and common athletic injuries, their causes, prevention, and immediate care. Prereq: Not open to Athletic Training majors. Not open to students with credit for AthTrng 661, or to students in Athletic Training major.			
5600	Global Aging	U G	3
Study of health and well-being of older adults in developed and developing countries and immigrant communities in the United States. Prereq: Sr or Grad standing, or permission of instructor.			
5600.01	Global Aging	U G	3
Study of health and well-being of older adults in developed and developing countries and immigrant communities in the United States. Prereq: Sr or Grad standing, or permission of instructor.			
5610	Death, Loss, and Grief in Multiple Perspectives	U G	2
Exploration of death, loss and grief from multiple perspectives: patient, family, institutional, community and health care provider. Prereq: Jr standing, or permission of instructor.			
5620	Aging, Accessibility, and Design	U G	3
Analysis and development of product and residential environment design for an aging population using environmental adjustment theories. Students apply Universal Design principles to home modifications. Prereq: Sr standing, or permission of instructor.			

5650	Aging and Public Policy Issues	U G	3
Examines major public and social policy issues of aging society, citizen participation in policy process, and analysis of policy decisions for the aging population in the United States.			
5660	Long Term Care Services Across the Continuum	U G	4
Introduction to long term care continuum, types of services, regulatory requirements, financing, alternatives, and issues of access, housing, challenges to providing quality care. Prereq: 5370 or 5650, or Grad standing in HRS, or permission of instructor.			
5880.01	Interprofessional Education Seminar on Interprofessional Care	U G	2
Develop and practice skills necessary for interprofessional collaboration in solving complex human problems. Case based. Limited to students enrolled in Health and Rehabilitation Sciences, Edu, Law, Med, Nursing, Social Work and Theology. Repeatable to a maximum of 4 cr hrs. Cross-listed in EduPAES 5880.01, MedColl 6880.01, and Nursing 5880.01.			
5880.03	Interprofessional Education Seminar on Ethical Issues Common to Helping Professions	U G	2
Ethical issues common to the professions, e.g., advancing technology, death and dying, privacy and confidentiality, professional boundaries. Cased based. Prereq: Enrollment in Health and Rehabilitation Science, Education, Nursing, or Medicine. Repeatable to a maximum of 4 cr hrs. Cross-listed in EduPAES 5880.03, Nursing 5880.03, and MedColl 6880.03.			
5900	Health Sciences Research: Interpretation and Applications	U G	3
Overview of research in the Health Sciences. This course is intended to prepare students to be educated consumers of research and to enable them to find, understand, interpret, and apply research findings in their professional practice.			
5900.01	Health Sciences Research: Interpretation and Applications	U G	3
Overview of research in the Health Sciences. This course is intended to prepare students to be educated consumers of research and to enable them to find, understand, interpret, and apply research findings in their professional practice.			
5900E	Health Sciences Research: Interpretation and Applications	U G	3
Overview of research in the Health Sciences. This course is intended to prepare students to be educated consumers of research and to enable them to find, understand, interpret, and apply research findings in their professional practice. Prereq: Honors standing.			
6193	Graduate Independent Studies	G	1 - 3
Guided study of select topics. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.			
6795	Introduction to Graduate Studies	G	1
Introduce new graduate students to the HRS graduate school and program through various means. Prereq: Admission into HRS Grad program.			
7100	Introduction to Health & Rehabilitation Science I	G	3
Provide students with knowledge concerning rehabilitation concepts relative to integrated healthcare models, physiological concepts of injury and rehabilitation, and neuroscience for health and rehabilitation. Prereq: Admission to Health and Rehabilitation Science PhD program, or permission of instructor.			
7150	Introduction to Health & Rehabilitation Science II	G	3
Provide students with knowledge of motor control and motor learning, behavioral and cognitive models for health and rehabilitation, explore the interaction of physical, neuroscience, cognitive and behavioral concepts in health and rehabilitation. Prereq: Admission to the Health and Rehabilitation Science Ph.D program, or permission of instructor.			
7193	PhD Individual Studies	G	1 - 3
Guided study of select topics. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 15 completions. This course is graded S/U.			
7200	Teaching in the Health Sciences	G	2
Principles and practices of teaching in the allied health professions; focuses on the application of teaching theory and systematic course construction within the context of allied health teaching and training. Prereq: Grad standing in Health and Rehabilitation Science. Not open to students with credit for AlliMed 753.			
7250	Teaching and Curriculum in Health and Rehabilitation Sciences	G	3
Provide students with theoretical background and practical training for curriculum planning and teaching in health and rehabilitation sciences; exposure to teaching and curricular policies and procedures will occur. Prereq: Grad standing in HRS, or permission of instructor.			

220 Health and Rehabilitation Sciences

7289 Practicum: Educational	G	1 - 4	7910 Evidence Based Practice II: Critical Analysis of Intervention Research and Systematic Review	G	1	
Practical experience in an educational setting with the allied health fields. Prereq: 2-4 cr hrs in Education, or permission of instructor. Not open to students with credit for AlliMed 889.01. This course is graded S/U.			Prepares students for evidence-based practice, emphasizing the processes of critical inquiry and analysis in a multidisciplinary forum. Scientific literature related to intervention research and systematic reviews will be emphasized. Prereq: Research Methods, Basic Statistics, or permission of instructor.			
7300 Management and Leadership in Health Sciences	G	3	7990 Non Thesis Research	G	1 - 5	
Application of management and leadership principles for the development of administration of allied health departments in the health care system. Prereq: Grad standing. Not open to students with credit for AlliMed 730.			Research for Non-Thesis. Repeatable to a maximum of 30 cr hrs or 15 completions. This course is graded S/U.			
7350 Issues and Policy in Health Sciences	G	3	7998 Practicum: Research	G	1 - 4	
Allied health professionals must increasingly face many complex issues that affect healthcare. It is crucial that graduate students be able to critically examine a broad range of issues and understand various positions and their implications. Prereq: Admission to Health and Rehabilitation Science Grad program.			Practical experience in a research setting with the allied health fields. Prereq: 2-4 cr hrs in Research Design, or permission of instructor. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is graded S/U.			
7400 Injury Biomechanics: Topics in Mechanisms and Prevention	G	3	7999 Thesis Research	G	1 - 5	
A seminar course exploring research and methods in injury biomechanics. Topics will focus on mechanisms and prevention of injury and may include human subject testing, sports injury studies along with crash safety evaluation.			Research for thesis. Repeatable to a maximum of 30 cr hrs or 15 completions. This course is graded S/U.			
7410 Advanced Structure and Function of the Human Body	G	5	8289 PhD Teaching Practicum	G	1	
This course investigates advanced concepts in human functional movement through the application of basic structures and anatomical relationships utilizing an evolutionary and biomechanical perspective as explanatory mechanisms. Prereq: Any undergraduate Anatomy/Physio course including comparative anatomy or evolutionary anatomy, and permission of instructor.			Students gain practical, advanced skills in allied health teaching through structured mentoring experiences. Prereq: Admission to Health and Rehabilitation Sciences PhD program, or permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.			
7595 Translational Neuroimmunology	G	1	8680 Experimental Methods in Biomechanics	G	3	
This seminar course is designed for graduate master or doctoral level students involved in basic or translational research in Immunology or Neuroscience. Students develop skills in teaching, analyzing, discussing, synthesizing, and presenting immunology and neuroscience research. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.			The purpose of this Experimental Methods in Biomechanics course is to introduce you to the wide variety of equipment that is used to make biomechanical measurements in clinical and research settings. We will discuss the technology/theory that was used to develop each measurement technique, how it is typically used, and its advantages and limitations.			
7650S Interdisciplinary Case Studies in Clinical Gerontology	G	2	8888 Health and Rehabilitation Science Grand Rounds Advanced	G	1	
Interdisciplinary seminar for graduate and professional students using a team approach and case studies to understand aging and work with older adults. Prereq: 7600, or Grad standing, or permission of instructor.			Students develop skills in analyzing, discussing and synthesizing health and rehabilitation research. Students present their own research and critically appraise faculty research. Prereq: Admission to Health and Rehabilitation Sciences PhD program, or permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.			
7700S Global Health in the Health Professions	G	1 - 2	8891 Advanced Skeletal Biology: Clinical Perspectives	G	3	
Supervised on-site active learning in international health and educational settings focusing on enhancing skills in collaboration, communication, and clinical reasoning. Prereq: Successful completion of all discipline coursework, and submission of an application, and permission of instructor.			This seminar is an investigation into the biological and hierarchical mechanisms underpinning skeletal system response to environmental factors, growth and development, adaptation, injury, healing processes, and rehabilitation. Prereq: Permission of instructor.			
7717 Interdisciplinary Perspective on Developmental Disabilities	G	3	8998 PhD Research Practicum	G	1 - 3	
Provides an introduction to the psychosocial, medical, and educational implications of developmental disabilities. Prereq: Permission of instructor. Not open to students with credit for 717.01 or 717.03. Cross-listed in EducSt, Social Work, Nursing, Psych, and SphHrng.			Students gain practical, advanced skills in allied health research through structured research experiences. Prereq: Admission to Health and Rehabilitation Sciences PhD program, or permission of instructor. Repeatable to a maximum of 30 cr hrs or 15 completions. This course is graded S/U.			
7718 Interdisciplinary Perspective on Autism Spectrum Disorder	G	3	8999 PhD Research	G	1 - 15	
Teaches the analytical skills necessary to comprehend and formulate an interdisciplinary framework relating to major scientific and theoretical perspectives in autism spectrum disorders. Prereq: Permission of instructor. Cross-listed in EducSt, SocWork, Nursing, Psych, and SphHrng.			Research for Dissertation. Repeatable to a maximum of 30 completions. This course is graded S/U.			
7795 Graduate Seminar	G	1 - 3	Health and Wellness Innovation in Healthcare			
Investigation of current topics of significance to allied health practitioners. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.			1100 Health and Wellness Innovation in Healthcare Survey	U	1	
7883 Responsible Conduct of Research	G	1	Introduction to the Health and Wellness Innovation in Healthcare degree with emphasis on strategies for success, resources, and procedures. Prereq: Enrollment in Pre-HWIH. Not open to students with credit for 100. This course is graded S/U.			
Seminar encompassing a variety of professional skills in Health and Rehabilitation Sciences Research including the process of writing, publishing, and reviewing journal manuscripts; human & animal subjects in research & responsible conduct. Prereq: Admission to Health and Rehabilitation Sciences PhD program, or permission of instructor. This course is graded S/U.			2110 Health Athlete	U	1	
7888 Health and Rehabilitation Science Grand Rounds Intro	G	1	An overview of four dimensions of personal energy (physical, emotional, mental and spiritual [purpose]) with guidance in developing self-care strategies for each. Prereq: Enrollment in HWIH major, or permission of instructor. This course is graded S/U.			
Students develop skills in analyzing, discussing and synthesizing health and rehabilitation research. Students present their own research and critically appraise faculty research. Discussion and demonstration of leadership will occur. Prereq: Admission to Health and Rehabilitation Sciences PhD program, or permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.			2193 Individual Studies	U	1 - 4	
7900 Evidence Based Practice I: Critical Analysis of Measurement and Diagnostic Tests	G	1	Students will gain knowledge and skills within the area of expertise of a faculty mentor. The course will provide individualized learning opportunities. Prereq: Enrollment in HWIH major or minor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.			
Prepares students for evidence-based practice, emphasizing best practices in clinical measurements and interpretation of diagnostic reliability, validity, prediction and measures of clinically meaningful change. Prereq: Research Methods, Basic Statistics, or permission of instructor.			2200 Introduction to Health Literacy	U	3	
2210 Dimensions of Wellness and Resilience	U	3	First of seven (five in minor) of the Health and Wellness Series; students will learn to define health literacy and identify and use the best practices of health literacy to improve health and wellness. Prereq: Enrollment in HWIH major or minor, or permission of instructor.			
Second in a series of seven in the Health and Wellness Innovation in Healthcare (HWH) series; includes an overview of science of behavior change, dimensions of wellness, resilience concepts and professional role development.						
Prereq: Enrollment in HWIH major; HWH 2200.						

Health and Wellness Innovation in Healthcare 221

2220	Wellness in Chronic Conditions I	U	5
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This course introduces the impact of chronic conditions on the health of individuals and populations and includes exploration of innovative disease prevention programs. Includes integration of health coaching strategies and health literacy issues in clients with chronic conditions and related, common medications.

Prereq: 2210, and enrollment in HWIH major or minor.

2780	Scholarship for Evidence Based Practice	U	3
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Introduction to information literacy, research methods and evidence based practice as they relate to health promotion.

Prereq: Enrollment in the HWIH major.

3110	Life Enhancement and Personal Wellness	U	3
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This course is designed to solidify and sustain gains in personal health; explore core principles of health literacy, holistic health and prevention of chronic disease related to self and others. Prereq: Enrollment in the HWIH major.

3220	Wellness in Chronic Conditions II	U	3
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Fifth in a series of seven of the Health and Wellness Series; Examines innovative models across the continuum of care designed to positively affect the health of individuals and populations.

Prereq: 2220, and enrollment in HWIH major or minor.

3230	Coaching for Health Improvement	U	3
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Fourth in a series of seven of the Health and Wellness Innovation in Healthcare (HWIH) series; reviews relevant theories, typical strategies and coach-client relationship principles defined by the International Coaching Federation used in health coaching to promote effective and sustainable behavior change.

Prereq: 2220, and enrollment in HWIH major or minor.

3240	Health Program Planning and Evaluation	U	3
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The social, educational and behavioral foundations of health promotion programming and methods for evaluation will be covered. Skills to conduct needs assessment, program planning and implementation, and process, impact and outcome evaluations will be developed.

Prereq: Enrollment in HWIH major.

3430	Integrating Culture in Healthcare	U	3
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Introduction to concepts and techniques for the provision of culturally sensitive care within the U.S. and across global contexts.

Prereq: Enrollment in the HWIH major.

3490	Technology-Based Health Promotion Strategies	U	3
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Explore theory underlying selection and use of education technology and pedagogy to engage individuals, families, organizations and communities in health promotion and wellness strategies.

Prereq: 3230, enrollment in HWIH major.

4300.01	HWH Practicum I	U	5
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Sixth in a series of seven courses in the Health and Wellness Innovation in Healthcare series; synthesis and application of health and wellness content including health coaching, health literacy, holistic health/prevention and innovation threads in field experience projects in an organization.

Prereq: 3220, HFDS 2400, and enrollment in HWIH major.

4300.02	HWH Practicum II	U	5
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Seventh in a series of seven courses in the Health and Wellness Innovation in Healthcare series; integration of program content and exemplifying the roles of knowledgeable health coach, innovator, and holistic health/prevention and health literacy professional in the culminating field experience.

Prereq: 4300.01, enrollment in HWIH major.

Health Care Innovation

7440	Innovation in High Performing Organizations	G	3
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Students learn advanced concepts of innovation in a high performing organization and the leadership behaviors that sustain innovation. Students discuss cross-disciplinary theories of innovation for improving health and quality of healthcare. Students are introduced to innovation competencies including positive deviance, complexity leadership, and disruptive innovation.

Prereq: Enrollment in the Masters of Healthcare Innovation (MHI) program, or permission of instructor.

7441	Innovation Leadership: Leading from Within	G	3
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This course encourages students to discover themselves as leaders to maximize innovation and organizational impact. Students explore their own leadership behaviors to better manage their energy and find balance in order to perform at a peak level and positively impact the advancement of innovation in healthcare.

Prereq: Enrollment in the Masters of Healthcare Innovation (MHI) program, or permission of instructor.

7442	Building a Culture of Innovation in Health Systems	G	3
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This course builds foundational knowledge of complex adaptive system characteristics in healthcare. It will explore complex adaptive system theory, systems thinking and network relationships as the context of leadership action and innovation. This course focuses on healthcare innovation from a systems perspective emphasizing the importance of networks, relationships, culture, and feedback.

Prereq: Enrollment in the Masters of Healthcare Innovation (MHI) program, or permission of instructor.

7460	Enhancing Communication in the Innovation System	G	3
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This course develops leadership behaviors that facilitate constructive conversations, interactions, and outcomes through communication and coaching techniques. The course explores the role of relationships and communication in healthcare innovation, and challenges the traditionally negative view of conflict, by reframing it as a valuable and normative behavior in high performing organizations.

Prereq: Successful completion of 7440 and 7441, or permission of instructor.

7500	Healthcare Policy: A Case for Innovation	G	3
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This course introduces the multi-faceted elements of healthcare policy at the local, regional, and national level and. It discusses the role that healthcare policy plays in framing the context for healthcare innovation to occur. Learners will be introduced to the current state of the US healthcare system and the political, systematic, and environmental impact of healthcare policy on innovation.

Prereq: Enrollment in Masters of Healthcare Innovation program, or permission of instructor.

7520	Utilizing Technology to Measure Outcomes in Health Systems	G	3
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This course explores strategies for outcome measurement as a strategy for enhancing organizational performance and innovation and how to leverage technology to measure and integrate outcomes into the daily practice in healthcare. The course emphasizes technology's role in the measurement of outcomes at the personal, the professional, the organizational and the system level.

Prereq: Enrollment in Masters of Healthcare Innovation program, or permission of instructor.

7521	Best Practices in Organizational Operations	G	3
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This course explores various elements of organizational operations in order to fully impact the organizations and systems in which they work. This course develops basic skill sets in financial and business operations in healthcare organizations. Students learn specific skills in budgeting, planning, financial analysis, program development and implementation, and resource identification and use.

Prereq: Successful completion of 7440 and 7441, or permission of instructor.

7522	Fundamentals of Design Thinking in Healthcare	G	2
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This course provides a framework and tools for innovation leaders to address challenges within healthcare systems. Principles of design thinking and design principles of functionality, value, and aesthetics are discussed and applied to analysis of complex healthcare problems.

Prereq: Enrollment in the Masters of Healthcare Innovation (MHI) program, or permission of instructor.

7590	Capstone I	G	2
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This course provides students with the opportunity to apply the principles of program development, implementation, and evaluation focused on innovation, leadership, and systems content into an innovation project in a healthcare environment. Students will demonstrate comprehension and application of course content from previous and concurrent courses.

Prereq: Successful completion of 7440, 7441, and 7442. This course is graded S/U.

7591	Capstone II	G	2
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This course will provide students with the opportunity to apply the principles of program development, implementation and evaluation focused on policy, communication and technology/outcome measurement content into an innovation project in a healthcare environment. Students will demonstrate comprehension and application of previous and concurrent courses.

Prereq: Successful completion of 7590. This course is graded S/U.

7592	Capstone III	G	3 - 4
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The Final Capstone Project will allow students to integrate the concepts learned in the Program's core courses and demonstrate evidence of understanding and application of innovation principles, concepts and strategies for implementation, and evaluation in a singular project that centers on innovation and complexity leadership.

Prereq: Successful completion of 7590 and 7591. This course is graded S/U.

7780	Evidence-Based Practice for Innovation in Organizations	G	3
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This course will focus on the use of evidence based practice, clinical decision making, and patient preferences as a core competency of innovation leaders.

Prereq: Enrollment in Masters of Healthcare Innovation (MHI) program, or permission of instructor.

Health Information Management And Systems

3520	Fundamentals of Health Information Management	U	4
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Content, format, value and use of clinical information and standards of documentation.

Accreditation and regulatory requirements. Practical applications in the management of health information and electronic health record functionalities.

Prereq: Enrollment in HIMs, or permission of instructor.

222 Health Information Management And Systems

4689	HIM Professional Practice Experience	U	1 - 3	5654	Health Information Systems Analysis and Design	U G	4
	Practical applications in health information management and informatics.				Applied systems planning and analysis techniques including database design and project management for health information systems evaluation, modeling and implementation.		
	Prereq: Enrollment in HIMS. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.				Prereq: 3520, 5648, and 5650; or Grad standing in HRS; or permission of instructor.		
4645	Management of Health Information Services and Technology	U	3	5655	Healthcare Database Administration	U G	3
	Principles of operation management including work measurement, productivity and quality standards, strategic planning, leadership, budgeting, training and teamwork in HIM and informatics.				Database design and maintenance for health data applications including creation of data dictionaries and SQL query language to meet the business needs of healthcare entities.		
	Prereq: Sr standing in HIMS, or permission of instructor.				Prereq: 5654, or permission of instructor. Not open to students with credit for 654 or 655.		
4689	HIM Professional Practice Internship	U	6	5660	Healthcare Financial Management	U G	2
	Practice experience in health information management and informatics in healthcare or related business environment work settings.				Overview of major financial issues in healthcare delivery including assessment of financial environment, financial statements, ratio analysis, managed care, payment systems, and capital project analysis.		
	Prereq: Sr standing in HIMS, and completion of all coursework required during Jr year of HIMS professional curriculum. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.				Prereq: Grad standing in AMP, and enrollment in HIMS; or permission of instructor.		
5193	Individual Studies	U G	1 - 5	5890	Seminar in Health Information Management and Informatics	U G	1 - 4
	Study of individual designed topics or problems in health information management not covered in regular course offerings.				Selected topics in health information management and informatics.		
	Prereq: Enrollment in HIMS, grad standing in AMP or permission of instructor. Not open to students with credit for 693. This course is graded S/U.				Prereq: Grad standing in AMP, and enrollment in HIMS, or permission of instructor.		
					Repeatable to a maximum of 12 cr hrs or 4 completions.		
5535	Clinical Classification Systems	U G	4				
	In-depth study of clinical classification systems, including International Classification of Disease Systems 9 and 10; and terminologies and vocabularies.						
	Prereq: 3520, HthRhSc 2500 or equiv, Anatomy 2300 or equiv, and EEOB 2520 or equiv; or permission of instructor.						
5536	Clinical Procedural Coding System for Provider Practices	U G	2				
	In-depth study of procedural and ambulatory clinical classification systems, with a focus on CPT/HCPSC coding for facility outpatient and physician services, for optimal reimbursement and audit liability purposes.						
	Prereq: 3520, AlliMed 2500, Anatomy 2199 or equiv, and EEOB x232 or equiv, or permission of instructor.						
5537	Revenue Cycle Management and Analysis in Healthcare	U G	3				
	Study the various components of the healthcare revenue cycle. Use analytic techniques to understand opportunities for improved performance.						
	Prereq: 5535 and 5536; or Grad standing in HRS; or permission of instructor.						
5540	Healthcare Data Management and Analysis	U G	3				
	Data management and statistical methods for the collection of healthcare data with emphasis on epidemiology, data collection, study design and data analysis.						
	Prereq: 3520, Math 1148, or Stat 1450, or permission of instructor.						
5545	Fundamentals of Healthcare Law and Ethics in Health Information Management and Informatics	U G	3				
	Fundamentals of healthcare law and ethics including liability theories, evidence, patient consent, risk management, quality improvement, compliance, and requirements affecting the privacy, security, control, and disclosure of health information.						
	Prereq: HthRhSc 5370, and enrollment in HIMS program, or permission of instructor.						
5620	Healthcare Reimbursement Systems	U G	3				
	In depth analysis of U.S. healthcare payment systems and methodologies including public funded programs, managed care contracting, utilization review and impact on providers, payers, consumers, policy and information systems.						
	Prereq: 3520 or AlliMed 5370, or Grad standing in AMP, or permission of instructor. Not open to students with credit for 589, 620, or 660.						
5620E	Healthcare Reimbursement Systems	U G	3				
	In depth analysis of U.S. healthcare payment systems and methodologies including public funded programs, managed care contracting, utilization review and impact on providers, payers, consumers, policy and information systems.						
	Prereq: Honors standing, and 3520; or Grad standing in HRS; or permission of instructor.						
5635	Quality Management and Performance Improvement in Healthcare	U G	3				
	Continuous quality management measures and tools including patient safety and satisfaction, regulatory requirements, benchmarking, causal analysis, outcomes, clinical guidelines and pathways, risk management and utilization review.						
	Prereq: 3520 or 5540, or Grad standing, or permission of instructor.						
5648	Microcomputer Applications in the Health Sciences	U G	2				
	Overview of microcomputer applications in health sciences with practical applications related to discipline specific needs.						
	Prereq: Enrollment in HRS, HIMS, or permission of instructor.						
5650	Healthcare Information Systems and Technology	U G	3				
	In depth analysis of patient, administrative and financial information systems and management practices to support systems. Emphasis on government involvement in health information technology and information exchanges.						
	Prereq: 5648 or equivalent, or Grad standing in HRS, or permission of instructor.						

2241H Culture of Contemporary Israel	U 3	4602 Modern Hebrew Poetry	U 3
An introduction to the culture of modern Israel: historical roots, socio-political institutions and developments, and literary and artistic creations reflecting the realities of contemporary Israeli society.		Reading and discussion of masterpieces of modern Hebrew poetry in the 19th and 20th centuries.	
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2241 (241), 241H, JewshSt 2242, or 2242H. GE cultures and ideas and diversity global studies course. Cross-listed in JewshSt 2242H.		Prereq: 1103, or permission of instructor. Not open to students with credit for JewshSt 4602.	
2245 Israeli Film & Society	U 3	4998 Undergraduate Research in Hebrew	U 1 - 3
A survey of Israeli films from 1948 to the present day, tracing the development of film production in Israel as well as the relationship between film and society.		Offers undergraduates with special aptitudes a greater opportunity to do more independent study and research than is possible in normal course work.	
Prereq: English 1110 (110). Not open to students with credit for 245 or JewshSt 2245. GE VPA course. Cross-listed in JewshSt.		Prereq: Permission of instructor. Not open to students with credit for 783H. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.	
2367.01 Scripture and Script: The Bible in Contemporary Arts, Media, and Literature	U 3	4998H Honors Research in Hebrew	U 1 - 3
The Bible is a foundational text for contemporary art, literature, and political discourse as well as a sacred text in some religious traditions. This course examines Biblical reflections in cultural production, with particular focus on the American experience. It also gives students opportunities to see their own cultural contexts anew, and to explore the Bible's possible relevance to our time.		Offers undergraduate honors students a greater opportunity to do more independent study than is possible in normal coursework.	
Prereq: English 1110.01 or equiv. GE writing and comm: level 2 and VPA course.		Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.	
2700 Biblical and Post-Biblical Hebrew Literature in Translation	U 3	4999 Undergraduate Thesis	U 1 - 3
Reading and analysis of selected chapters from the Hebrew scriptures and post-biblical Hebrew writings representative of major historical, cultural, and literary trends.		Offers undergraduates with special aptitudes the opportunity to do independent study leading to a thesis.	
Prereq: English 1110 (110). Not open to students with credit for 370, 370H, 2700H, JewshSt 2700, or JewshSt 2700H. GE lit and diversity global studies course. Cross-listed in JewshSt.		Prereq: Sr standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.	
2700H Biblical and Post-Biblical Hebrew Literature in Translation	U 3	4999H Undergraduate Honors Thesis	U 1 - 3
Reading and analysis of selected chapters from the Hebrew scriptures and post-biblical Hebrew writings representative of major historical, cultural, and literary trends.		Offers undergraduates with advanced aptitudes the opportunity to do independent study leading to an honors thesis.	
Prereq: Honors standing, and English 1110 (110); or permission of instructor. Not open to students with credit for 2700 (370), 370H, JewshSt 2700, or JewshSt 2700H. GE lit and diversity global studies course. Cross-listed in JewshSt.		Prereq: Honors standing, and a grade of A in at least half of the Hebrew courses taken and an average grade of B or above in all Hebrew courses, and Sr standing; or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.	
2702 Modern Hebrew Literature in Translation	U 3	5100 Introduction to Biblical Hebrew	U G 3
A survey of major themes and topics in Modern Hebrew literature from the middle of the 19th century to the present.		Introduction of main elements of Biblical Hebrew grammar and syntax, for study of ancient and late antique Mediterranean religion and History, for students in Classics, History, NELC, etc. Requires no previous study of Hebrew language but assumes moderate experience with studying another/non-native language.	
Prereq: English 1110 (110). Not open to students with credit for 372, 2702H (372H), JewshSt 2702, or 2702H. GE lit and diversity global studies course. Cross-listed in JewshSt.		Prereq: Third-semester level [1103] in any other modern or classical language, or permission of instructor.	
2703 Prophecy in the Bible and Post-Biblical Literature	U 3	5101 Biblical Hebrew Grammar	U G 3
The dynamics of Israelite prophecy and apocalyptic in the context of ancient Near Eastern culture.		Introduction to the phonology, morphology, and syntax of the Biblical Hebrew idiom.	
Prereq: English 1110 (110). Not open to students with credit for 373 or JewshSt 2703. GE lit and diversity global studies course. Cross-listed in JewshSt.		Prereq: 1103, or permission of instructor. Not open to students with credit for JewshSt 5101.	
2704 Women in the Bible and Beyond	U 3	5105 History of the Hebrew Language	U G 3
An examination of the social, legal, and religious position of women as they appear in the Hebrew Bible and the ways in which they have been represented and interpreted in later textual, visual, and audio sources.		Genealogical and typological relations within the Semitic family; a survey of Biblical, Mishnaic, and Modern Hebrew.	
Prereq: English 1110 (110). Not open to students with credit for 374 or JewshSt 2704. GE lit and diversity global studies course. Cross-listed in JewshSt.		Prereq: 1103, or permission of instructor. Not open to students with credit for JewshSt 5105.	
2708 Biblical and Post-Biblical Wisdom Literature	U 3	5193 Individual Studies	U G 1 - 10
An examination of the various ideas, themes, attitudes, implications, and genres of biblical and post-biblical wisdom literature.		Individual studies.	
Prereq: English 1110 (110). Not open to students with credit for 378 or JewshSt 2708. GE lit and diversity global studies course. Cross-listed in JewshSt.		Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.	
3120 Engaging Time: Philosophical and Rabbinic Dimensions of Temporality	U 3	5194 Group Studies	U G 1 - 10
This course introduces time through western philosophy and classical Jewish law, understood within its Near Eastern contexts. Topics include: how do we measure time; is time real or is it the result of subjective perception; how do perceptions of time affect one's religious life; does God know the future, and if so, are human beings free. Team-taught with faculty in Philosophy.		Group Studies.	
Prereq: Not open to students with credit for Philos 3120. GE cultures and ideas course. Cross-listed in Philos.		Repeatable to a maximum of 20 cr hrs or 5 completions.	
3210 The Jewish Mystical Tradition	U 3	5601 Introduction to Hebrew Literary and Cultural Texts	U G 3
The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience.		Literary and cultural Hebrew texts from the biblical to the modern period; students will develop the ability to read critically and to build analytical vocabulary. In Hebrew.	
Prereq: English 1110 (110). Not open to students with credit for 2210 (376) 2210H (376H), 3210H, CompStd 2210 (376), 2210H (376H), JewshSt 2210, 3210, 2210H, 3210H or RelStdS 2210 (376), 3210, 2210H, or 3210H. GE cultures and ideas and diversity global studies course. Cross-listed in RelStdS and JewshSt.		Prereq: 2105, or permission of instructor. Not open to students with credit for JewshSt 5601.	
4101 Review of Grammar and Composition	U 4	5602 The Bible as Literature: Selected Readings	U G 3
Review of Hebrew grammar; composition on assigned topics and some practice in translation.		Critical study of basic issues in the language and analysis of biblical texts. In Hebrew.	
Prereq: 1103 (104). Not open to students with credit for 401.		Prereq: 2105, or permission of instructor. Repeatable to a maximum of 12 cr hrs.	
4601 Modern Hebrew Short Story	U 3	5603 Readings in Rabbinic Literature	U G 3
Reading and discussion of masterpieces of modern Hebrew short stories in the 19th and 20th centuries.		Study of selected texts and issues in Rabbinic literature, and discussions of the methods by which they are studied. In Hebrew.	
Prereq: 1103, or permission of instructor. Not open to students with credit for JewshSt 4601.		Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.	
5797 Study at a Foreign Institution		5797 Study at a Foreign Institution	U G 1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.		An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.	
Repeatable to a maximum of 30 cr hrs or 5 completions.		Repeatable to a maximum of 30 cr hrs or 5 completions.	
5802 The Problem of Evil in Biblical and Post-Biblical Literature		5802 The Problem of Evil in Biblical and Post-Biblical Literature	U G 3
Study of the vexing problem of evil; the seeming contradiction between tradition and experience; extensive readings and discussions of appropriate biblical and post-biblical literature. In English.		Study of the vexing problem of evil; the seeming contradiction between tradition and experience; extensive readings and discussions of appropriate biblical and post-biblical literature. In English.	
Prereq: Not open to students with credit for JewshSt 5802.		Prereq: Not open to students with credit for JewshSt 5802.	
5806 Studies in Biblical Law		5806 Studies in Biblical Law	U G 3
Examination of the various biblical corpora of laws within the context of a great body of legal collections which extended throughout the ancient Near East.		Examination of the various biblical corpora of laws within the context of a great body of legal collections which extended throughout the ancient Near East.	
Prereq: Grad standing, or permission of instructor. Not open to students with credit for JewshSt 5806.		Prereq: Grad standing, or permission of instructor. Not open to students with credit for JewshSt 5806.	

224 Hebrew

7602 Studies in Hebrew Prose

G 3

Advanced study of specific periods, authors, and/or topics or prose writing, involving extensive readings and discussions of appropriate primary and secondary materials.

Repeatable to a maximum of 9 cr hrs.

8891 Seminar in Hebrew Studies

G 3

Intensive investigation of a selected topic or problem in Hebrew linguistics, philology, literature, or literary culture.

Repeatable to a maximum of 12 cr hrs.

Hindi

1101 Elementary Hindi I

U 4

Study of Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing. Closed to native speakers of the language.

Prereq: Not open to students with credit for 101. This course is available for EM credit. GE for lang course.

1102 Elementary Hindi II

U 4

Continued study of Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing.

Prereq: 1101. Not open to students with credit for 102. GE for lang course.

1103 Intermediate Hindi I

U 4

Continued study of Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing.

Prereq: 1102. Not open to students with credit for 104. This course is available for EM credit. GE for lang course.

2104 Intermediate Hindi II

U 3

Continued study of Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing.

Prereq: 1103.

2194 Group Studies

U 1 - 10

Course topics may vary on subjects not otherwise covered by NELC courses.

Prereq: Permission of instructor or department. Repeatable to a maximum of 15 cr hrs or 5 completions.

History

1101 Latin American Civilizations to 1825

U 3

Latin American political, social, economic, and cultural history from Pre-Columbian times to independence (1825) focusing on imperialism, religion, minorities, war, and rebellion.

Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110.xx. Not open to students with credit for 171. GE historical study and diversity global studies course.

1102 Latin American Civilizations since 1825

U 3

Latin American political, social, economic, and cultural history from independence (1825) to the present focusing on neo-colonialism, instability, underdevelopment, militarism, and minorities.

Prereq or concur: English 1110.xx. Not open to students with credit for 172. GE historical study and diversity global studies course.

1151 American Civilization to 1877

U 3

The political, constitutional, social, and economic development of the United States from the colonial period through the era of Reconstruction.

Prereq or concur: English 1110.xx. Not open to students with credit for 1150, 2001, or 151. GE historical study course. This course is available for EM credit.

1152 American Civilization since 1877

U 3

The political, constitutional, social and economic development of the United States from the end of Reconstruction to the present.

Prereq or concur: English 1110.xx. Not open to students with credit for 1150, 2002, or 152. GE historical study course. This course is available for EM credit.

1194 Introductory Undergraduate Group Studies

U 3

The investigation of particular problems in various fields of history. Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110.xx. Repeatable to a maximum of 18 cr hrs.

1211 Western Civilization to the 17th Century

U 3

Ancient civilizations (Near East, Greece, Rome); barbarian invasions; medieval civilizations (Byzantium, Islam, Europe); Renaissance and Reformation.

Prereq or concur: 1110.xx. Not open to students with credit for 1210, 2201, 2201H, 2202, 2203, 2205, or 111. This course is available for EM credit. GE historical study and diversity global studies course.

1212 Western Civilization, 17th Century to Present

U 3

Political, scientific, and industrial revolutions; nationalism; the two World Wars; the decline of empires; the Cold War.

Prereq or concur: English 1110.xx. Not open to students with credit for 1210, 2203, 2204, or 112. This course is available for EM credit. GE historical study and diversity global studies course.

1681 World History to 1500

U 3

Comparative survey of the world's major civilizations and their interconnections from the beginnings of human civilization through 1500.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 181 or 2641. This course is available for EM credit. GE historical study and diversity global studies course.

1682 World History from 1500 to the Present

U 3

Survey of the human community, with an emphasis on its increasing global integration, from the first European voyages of exploration through the present.

Prereq or concur: English 1110.xx., or permission of instructor. Not open to students with credit for 182 or 2642. This course is available for EM credit. GE historical study and diversity global studies course.

2001 Launching America

U 3

An intermediate-level approach to American history in its wider Atlantic context from the late Middle Ages to the era of Civil War and Reconstruction. Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1151 (151). GE historical study and diversity soc div in the US course.

2001H Launching America

U 3

Studies American society from earliest times to the abandonment of Reconstruction policies in 1877. Students will study the relation of structural changes in American society to the development of radical ideology, political institutions, and culture.

Prereq or concur: Honors standing, and English 1110.xx; or permission of instructor. Not open to students with credit for 2001, 1151 (151), or 151H. GE historical study and diversity soc div in the US course.

2002 Making America Modern

U 3

A rigorous, intermediate-level history of modern U.S. in the world from the age of industrialization to the age of globalization. Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1152 (152). GE historical study and diversity soc div in the US course.

2002H Making America Modern

U 3

Examines twentieth century American history in a global perspective, with special emphasis on the themes of industrial, military, and global expansion, as well as the expansion of civil and political rights of the American people. Students in good standing in the course will have the opportunity to participate in a University-sponsored field trip to Chicago.

Prereq or concur: Honors standing, and English 1110.xx; or permission of instructor. Not open to students with credit for 2002, 1152 (152), or 152H. GE historical study and diversity soc div in the US course.

2010 History of American Capitalism

U 3

Study of the evolution of "American Capitalism" from pre-capitalist economies of the medieval period to the early 21st century.

Prereq or concur: English 1110.xx. Not open to students with credit for 387. GE historical study course.

2015 History of American Criminal Justice

U 3

The history of crime, criminal law, law enforcement, prisons, and juvenile courts.

Prereq or concur: English 1110.xx. Not open to students with credit for 375. GE historical study course.

2040 History of Agriculture and Rural America

U 3

This course is a broad survey of the economic, social, and political history of agriculture and the countryside from the pre-Columbian period to the present. The course focuses on labor, abundance, political activism, public policy, and technology, and traces their interactions and changes over time.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study course.

2045 History of American Religion to the Civil War

U 3

History of religion in America from the colonial era through the Civil War.

Prereq or concur: English 1110.xx. Not open to students with credit for 578. GE historical study course.

2066 History of Medicine in Film

U 3

Examines portrayals of physicians in American film over the past seventy-five years, giving particular attention to what popular films can say about the cultural images of physicians and medicine in American society.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study course.

2070 Introduction to Native American History

U 3

History of Native Americans from pre-contact times to the present.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 368.01. GE historical study and diversity soc div in the US course.

2071 American Indian History of the U.S. Midwest

U 3

Native American history in Great Lakes and Ohio Valley regions from ancient times to the present, including moundbuilders, fur trade, removal, reservations, urbanization, contemporary issues. Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity soc div in the US course.

2075	Introduction to U.S. Latino/a History	U	3	2201	Ancient Greece and Rome	U	3
	Survey of Latinos/Latinas and their history in the United States from Spanish colonial period to present.				Comparative historical analysis of ancient Mediterranean civilizations of the Near East, Greece, and Rome from the Bronze Age to Fall of Rome.		
	Prereq or concur: English 1110.xx. Not open to students with credit for 324. GE historical study and diversity soc div in the US course.				Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1211 or 301. GE historical study course.		
2079	Asian American History	U	3	2202	Introduction to Medieval History	U	3
	A survey of how Asian immigrants, their American-born children, and international relations with Asia have shaped U.S. History.				Survey of medieval history from the late Roman Empire to the early sixteenth century. Sometimes this course is offered in a distance-only format.		
	Prereq or concur: English 1110.xx. Not open to students with credit for 346. GE cultures and ideas and historical study and diversity soc div in the US course.				Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1211. GE historical study and diversity global studies course.		
2080	African American History to 1877	U	3	2203	Introduction to Early Modern Europe	U	3
	The study of the African American experience in America from arrival through the era of Reconstruction, focusing on slavery, resistance movements, and African American culture.				A survey of European history from the Black Death to the Congress of Vienna. This course examines social, cultural, religious, political and economic developments from the mid fourteenth to the early nineteenth century. Sometimes taught at distance.		
	Prereq or concur: English 1110.xx. Not open to students with credit for 323.01 or AfAmAst 2080. GE historical study course. Cross-listed in AfAmAst.				Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1211 or 1212. GE historical study and diversity global studies course.		
2081	African American History from 1877	U	3	2204	Modern European History	U	3
	The study of the African American experience in the United States from the era of Reconstruction through the present.				Examination of selected themes from the history of Modern Europe from the French Revolution to the Present.		
	Prereq or concur: English 1110.xx. Not open to students with credit for 323.02 or AfAmAst 2081. GE historical study course. Cross-listed in AfAmAst.				Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1212 or 312. GE historical study and diversity global studies course.		
2085	Exploring Race and Ethnicity in Ohio: Black Ohio in the 19th Century	U	3	2204H	Modern European History	U	3
	Explores the lives and experiences of African Americans in 19th century Ohio. Sometimes this course is offered in a distance-only format.				Examination of selected themes from the history of Modern Europe from the French Revolution to the present.		
	Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for AfAmAst 2085. GE historical study and diversity soc div in the US course. Cross-listed in AfAmAst.				Prereq or concur: Honors standing and English 1110.xx, or permission of instructor. Not open to students with credit for 2204, 1212, or 312. GE historical study and diversity global studies course.		
2100	Introduction to the Spanish Atlantic World	U	3	2205	Western Civilizations to 1600: Rise, Collapse, and Recovery	U	3
	Introductory survey of the Spanish Empire in the Americas to 1825. Sometimes this course is offered in a distance-only format.				Thematic approach to the history of Western Civilization from prehistory to the early seventeenth century. Sometimes this course is offered in a distance-only format.		
	Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.				Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1211. GE historical study and diversity global studies course.		
2105	Latin America and the World	U	3	2210	Classical Archaeology	U	3
	Latin America's relationship with the World since independence (1825) focusing on cases of direct and indirect U.S. intervention as well as European influences and globalization. Sometimes this course is offered in a distance-only format.				Introduction to the principles, methods, and history of archaeological investigation in the ancient Greek and Roman world, illustrated through a selection of major classical sites.		
	Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.				Prereq or concur: English 1110.xx. Not open to students with credit for 306, Clas 2301 (240), or HistArt 2301 (306). GE cultures and ideas and historical study and diversity global studies course. Cross-listed in Clas 2301 and HistArt 2301.		
2110	Introduction to Native American Peoples from Mesoamerica	U	3	2211	The Ancient Near East	U	3
	Introductory survey of the Native American peoples from Mesoamerica (contemporary Guatemala, Honduras, Southern Mexico) from pre-colonial times to the present. Sometimes this course is offered in a distance-only format.				The ancient history of Mesopotamia, Egypt, Anatolia, Persia, Israel, and the Levant to the establishment of the Persian Empire.		
	Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.				Prereq or concur: English 1110.xx. Not open to students with credit for 500. GE historical study course.		
2111	Introduction to Native American People of the Andes	U	3	2213	The Ancient Mediterranean City	U	3
	Introductory survey of the history of the Native American peoples of the Andes from the Pre-Columbian period to the present.				Cities in the ancient Near East, Greece, and Rome, with an emphasis on their physical form and historical importance.		
	Prereq or concur: English 1110.xx. Not open to students with credit for 368.02. GE historical study course.				Prereq or concur: English 1110.xx. Not open to students with credit for 504.02. GE historical study course.		
2115	Women and Gender in Latin America	U	3	2220	Introduction to the History of Christianity	U	3
	Women, gender relations, reproductive rights, and women's response to the impact of religion and the state in Latin America from the Conquest to the present.				Introduces students to the historical study of Christianity as a religious tradition. Sometimes this course is taught in a distance only format.		
	Prereq or concur: English 1110.xx. Not open to students with credit for 533.06. GE historical study course.				Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.		
2120	Revolutions and Social Movements in Modern Latin America	U	3	2221	Introduction to the New Testament: History and Literature	U	3
	Latin American history from independence (1825) to the present focusing on revolutions, dictatorships, labor, political, and social movements, women, and indigenous populations. Sometimes this course is offered in a distance-only format.				Introductory survey of the New Testament writings in translation, including non-canonical sources of the early Christian movement.		
	Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.				Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for Clas 2221, 2221E, 2401, or 2401E. GE lit and historical study course. Cross-listed in Clas.		
2125	The History of Latin America Through Film	U	3	2221E	Introduction to the New Testament: History and Literature	U	3
	Latin American history from the pre-colonial era to the present as depicted in film, including the analysis of colonialism, revolutions, society, women, and current events. Sometimes this course is offered in a distance-only format.				Introductory survey of the New Testament writings in translation, including non-canonical sources of the early Christian movement.		
	Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.				Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 2221, Clas 2221, 2221E, 2401, or 2401E. GE lit and historical study course. Cross-listed in Clas.		
2194	Intermediate Undergraduate Group Studies	U	3	2231	The Crusades	U	3
	The investigation of particular problems in various fields of history.				Examines the various European crusades - in the Holy Land, Spain, Eastern Europe, and southern France - from their origins to the late 15th century. Sometimes this course is offered in a distance-only format.		
	Prereq or concur: English 1110.xx. Repeatable to a maximum of 18 cr hrs or 6 completions.				Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.		

226 History

2240 Elizabethan England U 3

The social, political, cultural and religious history of England during the reign of Queen Elizabeth I, 1558-1603, including the darker side of the Golden Age. Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

2250 Empires and Nations in Western Europe, 1500 - Present U 3

Comparative study of the Modern European Overseas Empires from the "age of discovery" to the postcolonial present. Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

2251 Empires and Nations in Eastern Europe, 1500-Present U 3

Comparative study of the Ottoman, Habsburg, and Russian empires, and their successor states in eastern Europe, from 1500 to the present.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 519.03. GE historical study and diversity global studies course.

2270 Love in the Modern World U 3

History of love in philosophy, literature, and art, focusing on the 19th and 20th centuries.

Prereq: English 1110.xx or permission of instructor. Not open to students with credit for 3278 or 528. GE historical study course.

2271 Happiness in History and Practice U 3

This class uses the framework of the history of emotions to examine the intellectual history of the emotion of happiness in Europe from Ancient Greece to the present, particularly the ways it emerged, evolved, and impacted various historical societies, as well as its indications of social diversity.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

2275 Children and Childhood in the Western World U 3

History of children, childhood and youth in the Western World from Antiquity to the present. Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

2280 Introduction to Russian History U 3

Selected topics introducing students to the history of Russian politics, society, and culture.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 336. GE historical study and diversity global studies course.

2301 African Peoples and Empires in World History U 3

A thematic course focusing on African world history, empire building, and commercial and cultural links across the Atlantic, the Indian Ocean, and the Mediterranean worlds before and during the Atlantic slave trade.

Prereq or concur: English 1110.xx. Not open to students with credit for 551. GE historical study course.

2302 History of Modern Africa, 1800 - 1960s U 3

Thematic survey of African history from 1800 to the 1960s.

Prereq or concur: English 1110.xx. Not open to students with credit for 350 or AfAmSt 350. GE historical study course.

2303 History of Contemporary Africa, 1960 - present U 3

Africa from independence to the present. Contemporary African societies, cultures, economics, and politics from independence to the present.

Prereq or concur: English 1110.xx. Not open to students with credit for 350. GE historical study course.

2350 Islam, Politics, and Society in History U 3

Introduction to the manner in which Islam has interacted with politics in the Middle East and vicinity from the rise of Islam through the present.

Prereq or concur: English 1110.xx. Not open to students with credit for 340. GE historical study course.

2351 Early Islamic Society, 610-1258 U 3

Origins and early development of selected fundamental Islamic institutions in their historical and cultural context.

Prereq or concur: English 1110.xx. Not open to students with credit for 540.01. GE historical study course.

2352 The Ottoman Empire, 1300-1800 U 3

Studies the political, economic, social, and cultural power of the Ottoman Empire from its origins, through the highpoint of its geopolitical power in the 16th century, to its further evolution through the opening of the period of European imperialism, and will examine the Ottoman Empire as a case from which to study the developmental dynamics of patrimonial sociopolitical systems.

Prereq: English 1110.xx or permission of instructor. Not open to students with credit for 3356 or 540.03. GE historical study course.

2353 The Middle East Since 1914 U 3

An introductory study of the political, social and cultural history and evolution of Islamic civilization since 1914. The course will examine the impact of outside power on the Middle East, as well as the region's responses to modernity; political, socioeconomic and cultural change; ideological strategy; Islamic identity and globalization; and changes in media of communication.

Prereq: English 1110.xx or permission of instructor. Not open to students with credit for 3358 or 540.05. GE historical study course.

2375 Islamic Central Asia U 3

Introductory survey of the political, cultural, religious, and economic history of Islamic central Asia from the eighth-century Arab conquests to the nineteenth-century Russian colonial era. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 343. GE historical study and diversity global studies course.

2392 Colonial India U 3

South Asia during the colonial period, from the arrival of Vasco da Gama in 1498 until independence and partition of India and Pakistan in 1947.

Prereq or concur: English 1110.xx. Not open to students with credit for 543.03. GE historical study course.

2393 Contemporary India and South Asia U 3

The political, social, economic, and cultural history of contemporary India and the South Asian subcontinent, focusing on India, Pakistan, and Bangladesh.

Prereq or concur: English 1110.xx. Not open to students with credit for 543.04. GE historical study course.

2401 History of East Asia in the Pre-Modern Era U 3

Introduction to societies and cultures of pre-modern China, Korea, and Japan; the East Asian geographical and cultural unit.

Prereq or concur: English 1110.xx. Not open to students with credit for 141. GE historical study and diversity global studies course.

2402 History of East Asia in the Modern Era U 3

Introduction to the transformation of societies and cultures of modern China, Korea, and Japan from the 17th century to the present.

Prereq or concur: English 1110.xx. Not open to students with credit for 142. GE historical study and diversity global studies course.

2450 Ancient and Medieval Jewish History, 300 BCE-1100 CE U 3

Introduction to the history of Jewish communities, religion, and culture in the Near East from the Greco-Roman period to the First Crusade.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 330.01 or JewshSt 2450. GE cultures and ideas and historical study and diversity global studies course. Cross-listed in JewshSt.

2451 Medieval and Early Modern Jewish History, 700-1700 CE U 3

Introduction to the history of Jewish communities, religion, and culture in Europe during the Medieval and Early Modern periods.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 330.01, 330.02, or JewshSt 2451. GE historical study course. Cross-listed in JewshSt.

2452 Modern Jewish History 1700-Present U 3

Study of the history of Jewish communities and Judaism from the early modern period to the early 21st century.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 330.02 or JewshSt 2452. GE historical study course. Cross-listed in JewshSt.

2453 History of Zionism and Modern Israel U 3

The history of Zionist movement and the modern state of Israel from beginnings to present.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 334 or JewshSt 2453. GE historical study course. Cross-listed in JewshSt.

2454 History of Anti-Semitism U 3

Study of the development of anti-Semitism, the history of anti-Semitic ideologies and practices, and different Jewish responses to anti-Semitism over time.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 333 or JewshSt 2454. GE historical study course. Cross-listed in JewshSt.

2455 Jews in American Film U 3

A study of how modern Jews appear in film compared with historical reality.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 332 or JewshSt 2455. GE historical study course. Cross-listed in JewshSt.

2475 History of the Holocaust U 3

Study of the state-sponsored murder of millions of Jews and non-Jews by the Nazis and their collaborators during World War II.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 331 or JewshSt 2475. GE historical study course. Cross-listed in JewshSt.

2500 20th Century International History U 3

Examines international political, economic, and military relations from the origins of World War I through the break up of the Soviet Union. Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

2550 History of War	U 3	2703 History of Public Health, Medicine and Disease	U 3
A survey of the main concepts and issues involved in the study of war in world perspective, using case studies from prehistoric times to the present.		Survey of the history of public health, disease and medicine in a global context. Sometimes this course is offered in a distance-only format.	
Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 380. GE historical study and diversity global studies course.		Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.	
2610 Introduction to Women and Gender in the U.S.	U 3	2704 Water: A Human History	U 3
Survey of women and gender from pre-European settlement to present, with particular attention to differences among women.		History of human use and understandings of water from ancient to modern times, with case studies taken from different geographic locations. Sometimes this course is offered in a distance-only format.	
Prereq or concur: English 1110.xx. Not open to students with credit for 325. GE historical study and diversity soc div in the US course.		Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.	
2610H Introduction to Women and Gender in the U.S.	U 3	2705 The History of Medicine in Western Society	U 3
Survey of women and gender from pre-European settlement to present, with particular attention to differences among women.		Explores the changing intellectual, economic, institutional and cultural relationships that have characterized medicine in the Western world from antiquity to the present, and examines individual roles and trends in the education of practitioners, locations of healing, and expectations that people had of medicine as ideas about the body and illness shifted.	
Prereq: Honors standing, or permission of instructor. Prereq or concur: English 1110.xx. Not open to students with credit for 325 or 325H. GE historical study and diversity soc div in the US course.		Prereq or concur: English 1110.xx, or permission of instructor. GE historical study course.	
2630 History of Modern Sexualities	U 3	2710 History of the Car	U 3
In-depth analysis of particular topics in the history of modern sexualities throughout the world; topic varies by semester.		The car has shaped the world we live in today. Ideas of capitalism, technology, and consumerism are inherently linked to its creation and expansion in modern society. This course will examine the development of the car in the 20th century, first in the United States and then how its global expansion has come to define global society today.	
Prereq or concur: English 1110.xx. Not open to students with credit for 326. GE historical study course.		Prereq or concur: English 1110.xx, or permission of instructor. GE historical study course.	
2641 Global History to 1500	U 3	2720 Big History	U 3
Examines the major issues that have shaped the human experience from the beginnings of human civilization (ca. 3500 B.C.E.) to ca. 1500 C.E., through comparative study of civilizations within the context of religion, trade, technology, art, culture, and gender relations.		"Big History" attempts to explain history at the very largest scales in the widest perspectives, exploring theories of how the universe, planet, life, and humanity came to be. Students will work to understand the essential state of knowledge about cosmic, earth, evolutionary, and human history.	
Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1681 (181). GE historical study and diversity global studies course.		Prereq or concur: English 1110.xx, or permission of instructor. GE historical study course.	
2642 Global History 1500 to Present	U 3	2750 Natives and Newcomers: Immigration and Migration in U.S. History	U 3
Examines the major issues that have shaped the human experience of various regions since 1500 C.E. through comparative study of civilizations within the context of religion, trade, technology, art, culture, industrialism, imperialism, revolution, and gender relations.		General survey of (im)migration history in the U.S. from precolonial times to the present. Topics include cultural contact, economic relations, citizenship, politics, family, and sexuality.	
Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1682 (182). GE historical study and global diversity studies course.		Prereq or concur: English 1110.xx. Not open to students with credit for 322. GE historical study and diversity soc div in the US course.	
2650 The World since 1914	U 3	2750E Natives and Newcomers: Immigration and Migration in U.S. History	U 3
Global perspective on major forces that shaped the world since 1914. Provides students with factual knowledge and a critical interpretive framework for responsible global citizenship.		General survey of (im)migration history in the U.S. from precolonial times to the present. Topics include cultural contact, economic relations, citizenship, politics, family and sexuality.	
Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 597. GE historical study and diversity global studies course.		Prereq: Honors standing, or permission of instructor. Prereq or concur: English 1110.xx. Not open to students with credit for 322, 322H, or WGSSt 2750H (332H). GE historical study and diversity soc div in the US course.	
2651 World History before the Modern Age	U 3	2750H Natives and Newcomers: Immigration and Migration in U.S. History	U 3
A thematic approach to exploring selected major processes and events that shaped human experience between the Stone Age and 1750. Specific topics and content can vary.		General survey of (im)migration history in the U.S. from precolonial times to the present. Topics include cultural contact, economic relations, citizenship, politics, family and sexuality.	
Sometimes this course is offered in a distance-only format.		Prereq: Honors standing, or permission of instructor. Prereq or concur: English 1110.xx. Not open to students with credit for 322H, WGSSt 3322H or 2750H. GE historical study and diversity soc div in the US course. Cross-listed in WGSSt.	
Prereq or concur: English 1110 (110), or equiv. Not open to students with credit for 1681 (181). GE historical study and diversity global studies course.		2752 Social Reform Movements in U.S. History	U 3
2675 The Indian Ocean: Communities and Commodities in Motion	U 3	Explores organized movements for social change from 1830 to 1970s, including antislavery, women's rights, temperance, utopias, Populists, Progressives, African-American, American Indian and Chicano rights. Sometimes this course offered at distance.	
This course examines the history of the Indian Ocean world, a dynamic inter-regional arena that touches three continents. The course will explore historical processes as they cross traditional boundaries between geographic regions. With its focus on communities and commodities, this course will expose students to the continuities and change that have created the modern Indian Ocean world.		Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.	
Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.		2797.01 Study at a Foreign Institution	U 1 - 6
2680 It's The End of The World!: Apocalypticism in Christianity, Judaism, and Islam	U 3	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.	
This course will explore how the end of the world—generally understood to be preceded by enormous wars and disasters as well as the judgment of people and a reckoning of their deeds—was imagined over two millennia by Christians, Jews, and Muslims. The course will cover primary and secondary historical works, as well as fictional bestsellers, about the apocalypse from around the world.		Prereq or concur: English 1110.xx., or permission of instructor. Repeatable to a maximum of 27 cr hrs or 9 completions.	
Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for NELC 2680. Cross-listed in NELC. GE historical study and diversity global studies course.		2797.02 The Western Tradition and Contemporary Issues: From Ancient Greece to the Global Present	U 3
2700 Global Environmental History	U 3	Participating students will have the opportunity to experience, and gain a greater appreciation for, the significance of the Western tradition through Ionian University faculty-led overviews of the various historical eras, beginning with ancient Greece and ending in the modern era, and group excursions to historical sites.	
Global overview of the ecology of the human condition in past time, stressing climate change, earth systems, technology, energy, demography, and human cultural-economic revolutions.		Prereq or concur: English 1110.xx, or permission of instructor. GE historical study course.	
Prereq or concur: English 1110.xx. Not open to students with credit for 366.01. GE historical study and soc sci human, nat, and econ resources and diversity global studies course.		2798 Study Tour	U 1 - 6
2701 History of Technology	U 3	Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.	
Survey of the history of technology in global context from ancient times.		Prereq or concur: English 1110.xx. Not open to students with credit for 698.01 or 698.02. Repeatable to a maximum of 27 cr hrs or 9 completions.	
Prereq or concur: English 1110.xx. Not open to students with credit for 362. GE historical study course.		2800 Introduction to the Discipline of History	U 3
2702 Food in World History	U 3	Investigation of the methods and analytical approaches historians use to understand the past.	
Survey of the history of food, drink, diet and nutrition in a global context. Sometimes this course is offered in a distance-only format.		Prereq or concur: English 1110.xx.	
Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.			

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2800E	Introduction to the Discipline of History	U	3				
	Investigation of the methods and analytical approaches historians use to understand the past. Prereq: Honors standing, or permission of instructor. Prereq or concur: English 1110.xx. Not open to students with credit for 2800 (398) or 2800H (398H).						
2800H	Introduction to the Discipline of History	U	3				
	Investigation of the methods and analytical approaches historians use to understand the past. Prereq: Honors standing, or permission of instructor. Prereq or concur: English 1110.xx. Not open to students with credit for 398H.						
3001	American Political History to 1877	U	3				
	The origins and development of American politics from early modern origins and national revolution to the era of Civil War and Reconstruction. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx, or permission of instructor. GE historical study and diversity soc div in the US course.						
3002	U.S. Political History Since 1877	U	3				
	History of American political institutions, ideas, and culture from Reconstruction to the present. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity soc div in the US course.						
3003	American Presidential Elections	U	3				
	History of presidential campaigns and elections from Washington to the present. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity soc div in the US course.						
3005	The United States Constitution and American Society to 1877	U	3				
	Advanced study of U.S. constitutional history from the colonial charters through Reconstruction after the Civil War. Prereq or concur: English 1110.xx, or permission of instructor. GE historical study course.						
3006	The United States Constitution and American Society since 1877	U	3				
	Advanced study of U.S. constitutional history from Reconstruction to the present. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 570.02. GE historical study course.						
3010	Colonial North America to 1763	U	3				
	The history of colonial and native societies in North America from first contacts to the eve of the imperial crisis. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 556. GE historical study course.						
3011	The American Revolution and the New Nation	U	3				
	Analysis of the political, cultural, social, military, and economic changes that led to revolution and creation of the republic. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 577.01. GE historical study course.						
3012	Antebellum America	U	3				
	An examination of American history from the nation-building of the age of Jefferson and Jackson to the sectional crisis over slavery. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 557.02. GE historical study course.						
3013	Civil War and Reconstruction	U	3				
	The causes, character, and consequences of America's inter-sectional war and the post-war settlement. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 557.03. GE historical study course.						
3014	Gilded Age to Progressive Era, 1877-1920	U	3				
	Advanced study of U.S. social, political, cultural, foreign policy history from 1877-1920: Industrialization; immigration; urbanization; populism; Spanish-American War; progressivism; WWI. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 564. GE historical study and diversity soc div in the US course.						
3015	From the New Era to the New Frontier, 1921-1963	U	3				
	Advanced study of U.S. social, political, cultural, foreign policy history, 1921 to 1963, covering New Era, New Deal, WWII, Cold War, Eisenhower Republicanism, New Frontier. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 565. GE historical study course.						
3016	The Contemporary U.S. since 1963	U	3				
	Advanced study U.S. political, economic, social, and cultural changes since 1963: political polarization; post-industrial economy/consumer economy; civil rights, feminism, environmentalism, Vietnam, detente, and globalization. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 566. GE historical study course.						
3017	The Sixties	U	3				
	Examination of postwar America's pivot point, focusing on civil rights; liberal, radical, and conservative politics; sweeping social, cultural, and economic change; and the Vietnam War. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 309. GE historical study course.						
3020	19th Century American Ideas	U	3				
	Urbanism, evangelicalism, slavery, Darwinism, Modernism, Anti-modernism. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 579.01. GE historical study course.						
3021	20th Century American Ideas	U	3				
	Surveys major American thought and thinkers of the 20th century. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 579.02. GE historical study course.						
3030	History of Ohio	U	3				
	Survey of economic, social, political development of the geographic area that became Ohio from Native Americans to present. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 310. GE historical study course.						
3032	History of the U.S. West	U	3				
	The social, cultural, and economic development of the U.S. West. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 560. GE historical study course.						
3040	The American City	U	3				
	History of the American city (urban-suburban) from colonial times to the early 21st century. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx, or permission of instructor. GE historical study and diversity soc div in the US course.						
3045	American Religious History	U	3				
	An examination of religious history of the United States from colonial era to the present. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 578. GE historical study course.						
3070	Native American History from European Contact to Removal, 1560-1820	U	3				
	Major issues and events in Native American history from before the European invasion and colonization through the early 1820s. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 568.01. GE historical study course.						
3071	Native American History from Removal to the Present	U	3				
	Covers major events in American Indian history from 1820s to present, including removal, reservations, cultural adaptation, federal policies, self-determination, activism, and contemporary issues. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 568.02. GE historical study and diversity soc diversity in the US course.						
3075	Mexican American Chicano/a History	U	3				
	History of people of Mexican descent and their presence in the United States from Spanish colonial times to contemporary period. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 577.01 or 577.02. GE historical study and diversity soc div in the US course.						
3080	Slavery in the United States	U	3				
	The African American experience in slavery, focusing on the rise of the slave trade, slavery in the colonial and antebellum eras, the Civil War, and abolition. Prereq or concur: English 1110.xx; or permission of instructor. Not open to students with credit for 559 or AfAmAST 3080. GE historical study course. Cross-listed in AfAmAST.						
3082	Black Americans During the Progressive Era	U	3				
	History and experiences of black Americans during the period best known in American History as the Progressive Era. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for AfAmAST 3082. GE historical study and diversity soc div in the US course. Cross-listed in AfAmAST.						
3083	Civil Rights and Black Power Movements	U	3				
	Examines the origins, evolution, and outcomes of the African American freedom struggle, focusing on the Civil Rights and Black Power movements. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for AfAmAST 3083. GE historical study and diversity soc div in the US course. Cross-listed in AfAmAST.						
3085	African American History Through Contemporary Film	U	3				
	Uses contemporary film to explore the history of African American life, culture, politics, and resistance. Prereq: English 1110.xx, or permission of instructor. GE historical study and diversity soc div in the US course.						

3100 Colonial Latin America	U 3	3216 War in the Ancient Mediterranean World	U 3
Mayan, Aztec, and Incan Empires; the Spanish and Portuguese conquests and the transplanting of Iberian institutions; the Baroque period; the Bourbon Century and the Enlightenment.		A survey of military history from the late Bronze Age to the fall of the Roman Empire in the West.	
Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 533.01. GE historical study course.		Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 2212 or 504.01. GE historical study and diversity global studies course.	
3101 South America Since Independence	U 3	3218 Paul & His Influence in Early Christianity	U 3
Nation-building in the South American republics during the 19th and 20th centuries with special emphasis on Argentina and Brazil.		Survey of the life and thought of the apostle Paul in translation, and his influence on the formation of Christianity.	
Prereq or concur: Any 2000-level History course, and English 1110.xx. Not open to students with credit for 533.02. GE historical study course.		Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for Clas 3407. GE for lit and historical study course.	
3105 History of Brazil	U 3	3219 Historical Jesus	U 3
History of Brazil during colonial and independence periods with major emphasis on the 19th and 20th centuries.		The purpose of this course is to consider the problem of how historical facts and religious persuasions are related where a religion, such as Christianity, lays claim to historical truth through examination of the figure of Jesus. Students will learn about historical methodology and a major religious figure about which there is considerable academic and theological debate.	
Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 534.02. GE historical study course.		Prereq: English 1110.xx, or permission of instructor. GE historical study course.	
3106 History of Mexico	U 3	3220 The Rise of the Roman Republic	U 3
History of Mexico during precolonial, colonial, and independence periods with emphasis on the 19th and 20th centuries.		An advanced survey of Rome's history from the foundation of the city to the establishment of the Republic's Mediterranean Empire, ca 150 BC.	
Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 534.03. GE historical study and diversity global studies course.		Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 503.01. GE historical study course.	
3191 Historical Internship	U 3	3221 Rome from the Gracchi to Nero	U 3
Internships will provide students with the opportunity to work on historical projects under the supervision of a practicing professional and a professor.		Rome from the Gracchi to Nero.	
Prereq or concur: English 1110.xx, and a CPHR of 3.0 or above, and enrollment in the History major; or permission of instructor.		Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 503.01 or 503.02 or 2212. GE historical study and diversity global studies course.	
3193.01 Individual Studies	U 1 - 6	3222 The Roman Empire, 69-337 CE	U 3
Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest.		An advanced survey of Rome's imperial history from the end of the Julio-Claudian dynasty to the death of Constantine.	
Prereq: English 1110.xx and any History 2000-level course, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 503.02. GE historical study course.	
3193.02 Individual Studies	U 1 - 6	3223 The Later Roman Empire	U 3
Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest.		An advanced survey of Rome's history in the fourth, fifth, and sixth centuries with focus on themes of decline, fall, and transformation.	
Prereq: English 1110.xx and any History 2000-level course, and permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 503.03. GE historical study course.	
3194 Upper-Level Undergraduate Group Studies	U 3	3225 Early Byzantine Empire	U 3
The investigation of particular problems in various fields of history.		History of Byzantium, 600-1453, with emphasis on internal developments, relations with neighbors, the Crusades, the Fall of the City, and the legacy of Byzantium.	
Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 505.01. GE historical study course.	
3210 Archaic Greece	U 3	3226 Later Byzantine Empire	U 3
Survey of Greek history from Neolithic Age (7000-3000 BC) to end of the Archaic Era (700-480 BC).		History of Byzantium, 843-1453, with emphasis on internal developments, the Crusades, the Fall of the City, and legacy of Byzantium.	
Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 501.01. GE historical study course.		Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 505.02. GE historical study course.	
3211 Classical Greece	U 3	3227 Gnostics and Other Early Christian Heresies	U 3
Survey of Greek history during the Classical era (480-320 BC).		Examines the early Christian philosophical movement known as "the Gnostics" whose beliefs, based on the stories of the Bible, Platonic philosophy, and the new revelation of Jesus, shocked other Christians. Sometimes taught at distance.	
Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 501.02. GE historical study course.		Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.	
3213 Slavery in the Ancient World	U 3	3229 History of Early Christianity	U 3
Study of slavery as an institution and ideology of ancient Greece and Rome, including its importance in the ancient family, economy, and culture.		A survey of the history of Christianity from its Jewish and Greco-Roman roots to the late sixth century.	
Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for Clas 3202 or History 3213H. GE for cultures and ideas and historical study course.		Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 506. GE historical study and diversity global studies course.	
3213H Slavery in the Ancient World	U 3	3230 History of Medieval Christianity	U 3
Study of slavery as an institution and ideology of ancient Greece and Rome, including its importance in the ancient family, economy, and culture.		Study of the development of Medieval Christianity from Constantine to the early sixteenth century.	
Prereq or concur: Honors standing, and English 1110.xx; or permission of instructor. GE cultures and ideas and historical study course.		Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 507. GE historical study course.	
3214 Women, Gender, and Sexuality in the History of Christianity	U 3	3231 Creating Medieval Monsters: Constructions of the "Other"	U 3
Explores the ways in which women were portrayed in early Christian literature, and the functions of gender (femininity and, to a lesser extent, masculinity) in Christian discourse. Students will consider the roles women played in the early Christian churches and the significance of gender and femininity in early Christian thought and practice.		This course examines the development of a persecuting society in medieval Europe and explores the various ways that minorities were demonized (literally turned into "monsters") in the medieval discourse and artwork in order to create a strong sense of unity within Christendom, with a specific focus on Jews, lepers, Muslims, religious non-conformists, sexual nonconformists, and women.	
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.		Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.	
3215 Sex and Gender in the Ancient World	U 3		
Introductory survey of women, gender, and sexual relations in the ancient Mediterranean world, especially Greece and Rome. Sometimes this course is offered in a distance-only format.			
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for Clas 3215 (Classics 508). GE historical study and diversity global studies course. Cross-listed in Clas.			

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3232 Solving Crime in Medieval Europe U 3

This course explores the interaction between the development of criminal law and social change in the late medieval period from a comparative perspective, examining primarily the English common law, but also the continental courts of law. Topics such as trial by ordeal; forensic medicine; homicide; sex crimes; clerical criminals; treason; sanctuary; and fear-mongering, will be explored.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

3235 Medieval Europe I, 300-1100 U 3

Study of the development of Western European institutions from the fall of the Roman Empire to the eleventh century.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 508.01. GE historical study course.

3236 Medieval Europe II, 1100-1500 U 3

Study of the growth of Western Europe from the eleventh century to the late fifteenth century.

Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 508.02. GE historical study course.

3239 Medieval England U 3

Survey of English history from the Roman conquest to 1485.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 508.03. GE historical study course.

3240 History of the Italian Renaissance, 1250-1450 U 3

Study of the society, culture, and politics of Italy, from the communal era until the age of humanism, thirteenth to fifteenth century.

Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 509.01. GE historical study course.

3245 The Age of Reformation U 3

The history of the Protestant, Catholic, and Radical Reformations of 16th and early 17th century Europe.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 511. GE historical study course.

3246 Tudor and Stuart Britain, 1485-1714 U 3

The social, political, and religious history of England and the British Isles in the age of Renaissance, Reformation, and Revolution.

Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 514.01. GE historical study course.

3247 Magic and Witchcraft in Early Modern Europe (1450-1750) U 3

Investigation of the history of European witchcraft, focusing on intellectual, religious, and social developments and on the great witchcraft trials of the early modern period. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

3249 Early-Modern Europe, 1560-1778 U 3

A survey of Europe from the late-sixteenth-century wars of religion to the more secular political conflicts on the eve of the French Revolution.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 512.01. GE historical study course.

3250 Revolutionary and Napoleonic Europe, 1750-1815 U 3

A survey of European but especially French history from the crisis of the Old Regime to the end of the wars of the French Revolution.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 512.02. GE historical study course.

3251 History of Europe in the 19th Century U 3

Major trends and developments in 19th century European history.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 512.03. GE historical study course.

3252 People on the Move: Migration in Modern Europe U 3

Study of migration movements in Europe from the age of industrialization to the present.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3253 20th Century Europe to 1950 U 3

Exploration of the major historical events and issues from approximately 1900 to 1950.

Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 512.04. GE historical study course.

3254 Europe Since 1950 U 3

Europe from Division to Unification.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 512.05. GE historical study and diversity global studies course.

3260 Britain in the 19th Century U 3

An introduction to the political, economic, and social history of Britain and the British empire from the eighteenth to early twentieth century.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 514.02. GE historical study course.

3263 France in the 20th Century U 3

Study of the major political, economic, social, and cultural transformations between the Dreyfus Affair and the postcolonial present.

Prereq or concr: English 1110.xx, or permission of instructor. Not open to students with credit for 515.02. GE historical study course.

3266 History of Spain, 1469-Present U 3

Unification of the thrones; the rise and fall of empire; rivalry with Portugal; Napoleon to the Civil War; Franco and the Post-Franco Era.

Prereq or concr: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 532. GE historical study course.

3267 Modern Greece U 3

Greece from 1453 to the present; Turkish rule, War of Independence, emergence of the modern state; focus on political, social, and cultural developments.

Prereq or concr: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 517. GE historical study course.

3269 Eastern Europe in the 20th Century U 3

Survey of East European history from World War I to the post-communist era.

Prereq or concr: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 519.02. GE historical study course.

3270 History of World War I U 3

Origins, conduct, and consequences of the First World War in global context.

Prereq or concr: English 1110.xx, or permission of instructor. GE historical study course.

3273 Modernist Thought & Culture, 1880-1945 U 3

This is a team-taught course that surveys modern Western cultural history and its revolutionary developments in physics, genetics, philosophy, psychiatry, visual art, architecture, music, dance, and literature. The team-teaching format ensures that students will have the opportunity to approach modernist ideas and forms of expression from more than one disciplinary perspective.

Prereq: English 1110 and any History 2000-level course, or permission of instructor. Not open to students with credit for English 3273. Cross-listed in English.

3276 European Thought and Culture, 19th Century U 3

European cultural developments in 19th century: romanticism, realism, existentialism: Shelley, Flaubert, Dostoevsky, Darwin, Marx, Nietzsche.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 513.01. GE historical study course.

3277 European Thought and Culture, 20th Century U 3

Major developments in 20th century literature, philosophy, science, and the arts.

Prereq or concr: English 1110.xx, or permission of instructor. Not open to students with credit for 2261. GE historical study course.

3281 Imperial Russian History, 1700-1917 U 3

Survey of Russian history from the reign of Peter the Great to the 1917 revolutions.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 537.01. GE historical study and diversity global studies course.

3282 History of the Soviet Union U 3

History of the Soviet Union from the Russian Revolution of 1917 to the collapse of communism in 1991.

Prereq or concr: English 1110.xx, or permission of instructor. Not open to students with credit for 538. GE historical study and diversity global studies course.

3283 Siberia in World History U 3

Introduction to the history, geography, culture, ethnic diversity, inter-communal relations, economy, and strategic importance of Siberia in Eurasia's past and present.

Prereq or concr: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 539. GE historical study course.

3301 History of Modern West Africa, post 1800 U 3

History of Modern West Africa since 1800; examines West African history from the era of European conquests to the present. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3302 Nationalism, Socialism, and Revolution in Africa U 3

Nationalist and revolutionary movements and governments in Africa 1950s to present. Socialist, revolutionary, and nationalist strategies for state-formation, social reform, and economic development. Sometimes this course is offered in distance only.

Prereq: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

3304 History of Islam in Africa U 3

Africa from the emergence of Islam in the 600s to the Present. African contributions to Islam and the impact of Islam on African societies. Sometimes this course is offered in a distance-only format.

Prereq or concr: English 1110.xx, or permission of instructor. Not open to students with credit for AfAmAst 3304 (541). GE historical study course. Cross-listed in AfAmAst.

3306 History of African Christianity U 3

The development of Christianity in Africa from antiquity to the present; Christianity's interaction with Islam and indigenous religions; Mission Christianity and its aftermath. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3307 History of African Health and Healing U 3

African approaches to health and healing; interaction between religion, culture and healing; intersections and contradictions between African and Western concepts of health healing. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

3308 History of US - Africa Relations, 1900 - Present U 3

History of the United States' relations with Africa since World War I. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for AfAmAST 3308. GE historical study and diversity global studies course. Cross-listed in AfAmAST.

3310 History of African Cinema U 3

Emergence and development of African cinema as a film genre and part of material culture. European colonial and ethnographic film to modern African cinema. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for AfAmAST 3320. GE historical study and diversity global studies course. Cross-listed in AfAmAST 3320.

3312 Africa & World War II U 3

This course will focus on the oft-neglected African dimension of WWII. The course will explore the importance of Africans as soldiers and producers; the effects of WWII on class, race, and gender relations within the continent; and the importance of WWII in provoking crises in colonial empires and transforming the nature of political mobilization across the African continent.

Prereq: English 1110.xx, or permission of instructor. GE historical study course.

3313 Conflict in the Horn of Africa U 3

This course will explore conflict in the Horn of Africa, a region that has been embroiled in interlocking civil wars, ethnic and religious conflicts, territorial disputes, and the disintegration of the nation states for many years. It will examine the root causes, the nature, and the impact of these conflicts on local communities as well as their regional and international implications. Prereq: English 1110.xx, or permission of instructor. GE historical study course.

3351 Intellectual and Social Movements in the Muslim World U 3

Upper-level lecture/discussion course on significant intellectual and social movements in the Middle East and vicinity from the advent of Islam to the present.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 542.01. GE historical study course.

3353 Jewish Communities under Islamic Rule U 3

Lecture and discussion course examining the experiences of Jewish communities in predominantly Muslim societies from the advent of Islam through ca. 1800. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3365 History of Afghanistan U 3

This course will address Afghan society, its historical foundations, and the challenges that confront it.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 355. GE historical study course.

3375 Mongol World Empire: Central Eurasia, 1000-1500 U 3

This course will address the social, cultural, and political history of medieval Central Eurasia, focusing on the Mongol Empire and its legacy.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 544. GE historical study and diversity global studies course.

3376 The Silk Road: Commerce and Culture in Eurasia 200 BCE-1498 CE U 3

A study of the commercial and cultural relations among Chinese, Indian, Iranian, and Roman/Islamic civilizations.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 341. GE historical study and diversity global studies course.

3403 History of Early Modern China: 14th-18th century U 3

Introduction to political, social, cultural, and economic developments from 14th to 18th century, mainly the Ming and early Qing dynasty.

Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 545.02. GE historical study course.

3404 Modern China 1750-1949 U 3

History of Modern China, circa 1750 to 1949; emphasis on state and society (politics, military affairs, economics, social structure, and culture).

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 545.03. GE historical study and diversity global studies course.

3405 Contemporary China 1921-2000 U 3

History of Contemporary China from 1921 to 2000; emphasis on Communist Party, state and society (politics, military affairs, economics, social structure, and culture).

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 545.04. GE historical study and diversity global studies course.

3410 Studies in Chinese History U 3

Topics and issues in any period of Chinese history contingent on interests of faculty and students; usually this course emphasizes readings and discussions.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 546. Repeatable to a maximum of 9 cr hrs. GE historical study and diversity global studies course.

3411 Gender and Sexuality in China U 3

Introduction to gender and sexuality in China, including Confucian gender ideology, changes in marriage, family, sexual morality, and work from pre-modern to modern period. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3425 History of Japan Before 1800 U 3

History of Japan to 19th century; emphasis on religion, politics, economic development, social structure and culture.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 548.01. GE historical study and diversity global studies course.

3426 History of Modern Japan U 3

Japanese history since 1800: politics, economics, intellectual change, foreign relations. International scientific, technological and cultural interaction, World War II, Japanese contributions to global culture featured.

Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 548.02. GE historical study course.

3435 History of Early Modern Korea U 3

Examines the development of Korea from ancient times through the turn of the 20th century. Sometimes this course is taught in a distance-only format.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3436 History of Modern Korea U 3

Modern Korean History, with focus on the legacy of colonialism, the Korean War, the impact of the Cold War, divided Korea, the growth of competing national ideologies and economic systems, and the recent military crises. Sometimes taught at distance.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3450 History of Ancient Israel (to 300 BCE) U 3

Survey of the history and historiography of Israel from its origins to the advent of Hellenism.

Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for 530.01 or JewshSt 3450. GE historical study course. Cross-listed in JewshSt.

3455 Jewish Life from the Renaissance to the Early Enlightenment U 3

Life and thought of European and Mediterranean Jews in the early modern period. Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for JewshSt 3455. GE historical study course. Cross-listed in JewshSt.

3465 American Jewish History U 3

Study of topics in American Jewish history from the colonial era to the present. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for 530.04 or JewshSt 3465. GE historical study course. Cross-listed in JewshSt.

3470 Messiahs and Messianism in Jewish History U 3

The history of Jewish messianic ideas and of Jewish messianic leadership from ancient to modern times.

Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for 531.01 or JewshSt 3470. GE historical study course. Cross-listed in JewshSt.

3500 U.S. Diplomacy from Independence to 1920 U 3

The formulation of U.S. foreign policy and foreign relations around the world from the independence of the republic to the aftermath of World War I.

Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 583.01. GE historical study course.

232 History

3501 U.S. Diplomacy, 1920-Present

U 3

The formulation of U.S. foreign policy and foreign relations around the world from the aftermath of World War I to the modern day.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 583.02. GE historical study course.

3505 U.S. Diplomacy in the Middle East

U 3

Survey of U.S. foreign policy in the Middle East emphasizing the Cold War, Arab-Israeli conflict, Iran, and wars against Iraq. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for JewshSt 3505. GE historical study and diversity global studies course. Cross-listed in JewshSt.

3525 19th Century European International History

U 3

History of the international relations and diplomacy of Europe from the French Revolution to the First World War.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study course.

3540 Modern Intelligence History

U 3

This course examines the role of diplomatic and military intelligence in the making of policy in modern history.

Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 584. GE historical study course.

3550 War in World History, 500-1650

U 3

Study of the causes, conduct, and consequences of warfare around the world, 500-1650. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3551 War in World History, 1651-1899

U 3

Study of the causes, conduct, and consequences of warfare around the world, 1650-1900. Sometimes this course is offered in a distance-only format.

Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 580.01. GE historical study course.

3552 War in World History, 1900 - Present

U 3

Study of the causes, conduct, and consequences of warfare around the world, 1900-present. Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 580.02. GE historical study course.

3560 American Military History, 1607-1902

U 3

American military history, 1607-1902; emphasis on the formation of national security policy, war-waging, and the reciprocal impact of society and military institutions.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 582.01. GE historical study course.

3561 American Military History, 1902 to the Present

U 3

American military history, 1902 to the present; emphasis on the formation of national security policy, war-waging, and the reciprocal impact of society and military institutions.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 582.02. GE historical study course.

3570 World War II

U 3

Study of the causes, conduct, and consequences of World War II.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 307. GE historical study and diversity global studies course.

3580 The Vietnam War

U 3

Study of the background, causes, conduct, and consequences of the Vietnam War, 1945-1975.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 308. GE historical study and diversity global studies course.

3590 Wars of Empire

U 3

This course examines the means, methods, challenges and results of military encounters between modern imperial powers and indigenous forces they met on the battlefield.

Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 381. GE historical study course.

3600 Studies in Women's and Gender History

U 3

In-depth analysis of selected topics in American, European, and/or Third World women's history; topic varies by semester.

Prereq: English 1110.xx, or permission of instructor. Repeatable to a maximum of 12 cr hrs. GE historical study course.

3612 Asian American Women: Race, Sex, & Representations

U 3

Examines the experiences and cultural representations of Asian American women for insight into race, gender, sexuality, and citizenship in U.S. society. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity soc div in the US course. Cross-listed in WGSS 4401.

3620 Lesbian, Gay, Bisexual, and Transgender History in the United States, 1940-Present

U 3

An overview of LGBT culture and history in the U.S. from 1940 to the present. Students will examine changes in LGBT lives and experiences during the last half of the 20th century and the beginning of the 21st century, as well as the intersections of race, sexuality, and class, and how these categories have affected sexual minority communities and broader US law and culture.

Prereq: English 1110.xx, or permission of instructor. GE historical study and diversity soc div in the US course.

3630 Same-Sex Sexuality in a Global Context

U 3

History of same-sex love and sexuality in comparative geographical and chronological contexts.

Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 526. GE historical study course.

3640 Medieval Women: Power, Piety, and Production

U 3

Investigation of the lives and experiences of medieval European women, with special focus on political power, religious life, work, and family life.

Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 523. GE historical study course.

3641 Women and Gender in Early Modern Europe: 1450-1750

U 3

Investigation of the lives and experiences of early modern European women, with special focus on family life, gender, work, education, religious life, and political power.

Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 523. GE historical study course.

3642 Women in Modern Europe, from the 18th century to the Present

U 3

Study of women's lives and activism emphasizing the ways in which economic position, religion, sexuality, marital status, regional and national differences influenced their experiences.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 524. GE historical study course.

3650 Families in Historical Perspective

U 3

Comparative and transnational analysis of family history. Focus on questions of gender, sexuality, culture, religion, and economy as they intersect with families and households.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 527. GE historical study course.

3670 Trans-National History of World War II in Europe

U 3

One of three Spring prerequisite courses to the World War II Study Program's May term in Europe. Only students accepted into the program during the October registration period may enroll. This class will deepen the contextual knowledge of students about the different national histories and the specific sites they will encounter in May.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Students must be accepted into the WWII Study Abroad program for the upcoming "May" term. GE historical study course.

3675 How to Stage a Revolution

U 3

Compares revolutionary movements in order to help explain why some fail and some succeed. Sometimes this course is offered in a distance-only format.

Prereq: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

3680 Religion and Law in Comparative Perspective

U 3

Comparative, interdisciplinary approach to studying religion and law. Drawing on concrete cases, historical studies, and theoretical literature, the course explores how the relationship between religion and law has been configured differently in different liberal democracies, such as the U.S., France, and Israel, and what this might mean for contemporary debates. Team-taught w/ faculty in RelStds.

Prereq: Not open to students with credit for RelStds 3680. GE historical study and diversity global studies course. Cross-listed in RelStds.

3700 American Environmental History

U 3

The history of American ecosystems from the last Ice Age to the present; focuses on historical debates over the causes and consequences of environmental change.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study course.

3701 History of American Medicine

U 3

Survey of the history of American medicine from the Colonial period through the twentieth century.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for 562. GE historical study course.

3702 Digital History

U 3

This course is a survey of the ways digital technology is impacting history: from the collection and preservation of primary sources, to the analysis of those documents with the aid of algorithms, to the representation of the past through digital means. Students will read and reflect upon important works in digital history, as well as engage in the process of creating digital history.

Prereq: English 1110.xx, or permission of instructor. GE historical studies course.

3704 HIV: From Microbiology to Macrohistory

U 3

This course is an interdisciplinary exploration of HIV/AIDS, tracing the evolution of the virus at both the molecular level and within its global historical context. This course is team-taught by a virologist and a historian.

Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for Micrbio 3704. Cross-listed in Micrbio.

3705 History of Capitalism in Comparative and Global Perspective

U 3

An historical comparison of the development of modern forms of capitalism globally.

Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 587.01. GE historical study course.

3706 Coca-Cola Globalization: The History of American Business and Global Environmental Change 1800-Today

U 3

This course offers an introduction to the fields of environmental history and business history, beginning with the industrial revolution of the early nineteenth century and ending in the twenty-first century. It chronicles the rise of some of America's biggest multinational corporations and examines how these firms, working with governments and other institutions, shaped global change.

Prereq: English 1110.xx, or permission of instructor. GE historical study and diversity soc div in the US course.

3708 Vaccines: A Global History

U 3

This course examines the history and biology of vaccines. We explore the discovery and development of vaccines, along with the political and cultural controversies that have surrounded them for centuries. Team-taught course with faculty member in Pharmacy.

Prereq: Not open to students with credit for Phr 3708. GE historical study course. Cross-listed in Phr.

3711 Science and Society in Europe, from Copernicus to Newton

U 3

A survey of the history of science and its place and relationship to European society in the early modern period. Students will understand the various strands that constitute the scientific revolution in early modern Europe, modern intellectual history, how revolutions in thought occur, and will practice analytical and communications skills in working with both secondary and primary sources.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study course.

3712 Science and Society in Europe, from Newton to Hawking

U 3

The history of science from the eighteenth through to the late twentieth century. Students will study major developments in the physical, geological, biological and chemical sciences, and the relation of the history of science to social, economic, political and cultural developments in European history.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study course.

3715 Explorations of Science, Technology and the Environment in East Asia

U 3

Case studies in the Development of Science, Technology and Environmental Change in the East Asian context, pre-modern to modern times.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 587.02. GE historical study and diversity global studies course.

3724 History of the Arctic

U 3

This course will introduce students to the history, geography, culture, ethnic diversity, inter-communal relations, economy, and strategic importance of the planet's Arctic regions, from arrival of humans to the region to the present.

Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

3797 Study at a Foreign Institution

U 1 - 6

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Prereq: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Repeatable to a maximum of 27 cr hrs or 9 completions.

3798.01 Study Tour

U 1 - 6

Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.

3798.02 The U.S., Europe, and the Second World War: Intersections in 20th Century History

U 3

Study Tour in Europe exploring the history of World War II, the United States, and Europe. Prereq: English 1110.xx, History 3015, 3570, 4795, and French 3801; or permission of instructor. GE historical study and diversity global studies and education abroad course.

3798.03 Shanghai, 1750 to 2050: History, Culture, and Language

U 3

The Shanghai Study Tour will present students with general empirical information and interpretations about the history of Shanghai and China. Students will study the history, culture, and language of Shanghai "up close and personal" by taking classes at East China Normal University, visiting major historical sites in Shanghai, and by living in China.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies and education abroad course.

3798.04 Global Hotspots of the Early Modern World: Buenos Aires

U 3

Through the study of 18th century Buenos Aires, this course will inform students about the emergence of cities that connected Old and New Worlds and that served as places of innovation in commerce, political structures, and ideas. Students will benefit from international travel experience and exposure, and will acquire new depth of knowledge about the history of global interconnectedness.

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies and education abroad course.

3798.05 HIV in Context: East Africa

U 4

This course is an interdisciplinary exploration of the real world impact of- and response to HIV/AIDS.

Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for Micrbio 3798.05. GE historical study and education abroad course. Cross-listed in Micrbio.

3798.06 Between France and Morocco: Inclusivity and Diversity in the Francophone World

U 3

This is a Study Abroad course offered in the 4-Week May Session that traces the evolution of plural (cultural, religious, political, and national) identities in France and North Africa, focusing on shared histories and tensions between the two countries.

GE historical study and diversity global studies course.

4000 Readings in Early American History

U 3

Advanced readings on selected topics in Early American History.

Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4005 Research Seminar in Early American History

U 3

Advanced research and writing on selected topics in Early American History.

Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4010 Readings in Modern U.S. History

U 3

Advanced readings on selected topics in Modern U.S. History.

Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4010E Readings in Modern U.S. History

U 3

Advanced readings on selected topics in Modern U.S. History.

Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4015 Research Seminar in Modern U.S. History

U 3

Advanced research and writing on selected topics in Modern U.S. History.

Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4015H Research Seminar in Modern U.S. History

U 3

Advanced research and writing on selected topics in Modern U.S. History.

Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4080 Readings in African American History

U 3

Advanced readings on selected topics in African American History.

Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4090 Readings in Atlantic World History

U 3

Advanced readings on selected topics in Atlantic World History. Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4100 Readings in Latin American History

U 3

Advanced readings on selected topics in Latin American History.

Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4125 Research Seminar in Latin American History

U 3

Advanced research and writing on selected topics in Latin American History.

Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4125E Research Seminar in Latin American History

U 3

Advanced research and writing on selected topics in Latin American History.

Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4125H Research Seminar in Latin American History

U 3

Advanced research and writing on selected topics in Latin American History. Sometimes this course is offered in a distance-only format.

Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

234 History

4193.01 Individual Studies U 1 - 6

Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest.
Prereq: English 1110.xx and any History 3000-level course, and permission of instructor.
Repeatable to a maximum of 20 cr hrs or 20 completions.

4193.02 Individual Studies U 1 - 6

Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest.
Prereq: English 1110.xx and any History 3000-level course, and permission of instructor.
Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.

4194 Advanced Undergraduate Group Studies U 1 - 6

Advanced Undergraduate Group Studies. Sometimes this course is offered in a distance-only format.
Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.

4210 Readings in Greek History U 3

Advanced readings on selected topics in Greek History.
Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4212 Readings in Late Antiquity U 3

Advanced readings on selected topics in Late Antiquity.
Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4217 Research Seminar in Late Antiquity U 3

Advanced research and writing on selected topics in Late Antiquity.
Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4218 Research Seminar in Byzantine History U 3

Advanced research and writing on selected topics in Byzantine History.
Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4230 Readings in Medieval History U 3

Advanced readings on selected topics in Medieval History.
Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4235 Research Seminar in Medieval History U 3

Advanced research and writing on selected topics in Medieval History.
Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4235E Research Seminar in Medieval History U 3

Advanced research and writing on selected topics in Medieval History.
Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4240 Readings in Early Modern European History U 3

Advanced readings on selected topics in Early Modern European History.
Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4245H Research Seminar in Early Modern European History U 3

Advanced research and writing on selected topics in Early Modern European History.
Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4250 Readings in Modern European History U 3

Advanced readings on selected topics in Modern European History.
Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4250H Readings in Modern European History U 3

Advanced readings on selected topics in Modern European History.
Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4255 Research Seminar in Modern European History U 3

Advanced research and writing on selected topics in Modern European History.
Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4255E Research Seminar in Modern European History U 3

Advanced research and writing on selected topics in Modern European History.
Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4285 Research Seminar in Russian, E European and Eurasian History U 3

Advanced research and writing on selected topics in Russian, E European and Eurasian History.
Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4300H Readings in African History U 3

Advanced readings on selected topics in African History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4350 Readings in Islamic History U 3

Advanced readings on selected topics in Islamic History.
Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4400 Readings in Chinese History U 3

Advanced readings on selected topics in Chinese History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4425 Readings in Japanese History U 3

Advanced readings on selected topics in Japanese History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4430 Research Seminar in Japanese History U 3

Advanced research and writing on selected topics in Japanese History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4525 Research Seminar in International History U 3

Advanced research and writing on selected topics in International History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4525E Research Seminar in International History U 3

Advanced research and writing on selected topics in International History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4550 Readings in Military History U 3

Advanced readings on selected topics in Military History.
Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4575 Research Seminar in Military History U 3

Advanced research and writing on selected topics in Military History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4600 Readings in Women's/Gender History U 3

Advanced readings on selected topics in Women's/Gender History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4600E Readings in Women's/Gender History U 3

Advanced readings on selected topics in Women's/Gender History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4625 Research Seminar in Women's/Gender History U 3

Advanced research and writing on selected topics in Women's/Gender History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4650 Readings in World/Global/Transnational History U 3

Advanced readings on selected topics in World/Global/Transnational History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4650E Readings in World/Global/Transnational History Embedded U 3

Advanced readings on selected topics in World/Global/Transnational History Embedded.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4650H Readings in World/Global/Transnational History Honors U 3

Advanced readings on selected topics in World/Global/Transnational History Honors.
Prereq or concur: Honors standing, any 3000-level History course, English 1110.xx, and enrollment in History major; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4675	Research Seminar in World/Global/Transnational History	U	3	5010	Special Topics in Modern U.S. History	U G	3
	Advanced research and writing on selected topics in World/Global/Transnational History. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.				Advanced course in Modern U.S. History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		
4675E	Research Seminar in World/Global/Transnational History	U	3	5080	Special Topics in African American History	U G	3
	Advanced research and writing on selected topics in World/Global/Transnational History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.				Advanced course in African American History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		
4700	Readings in the History of Environment, Technology, and Science	U	3	5194	Combined Undergrad and Grad Group Studies	U G	1 - 6
	Advanced readings on selected topics in Environmental History, Technology and Science. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.				The investigation of particular problems in various fields of History. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.		
4700E	Readings in the History of Environment, Technology, and Science	U	3	5210	Special Topics in Greek History	U G	3
	Advanced readings on selected topics in Environmental History, Technology and Science. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.				Advanced course in Greek History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
4705	Research Seminar in the History of Environment, Technology, and Science	U	3	5229	Special Topics in Ancient Christianity	U G	3
	Advanced research and writing on selected topics in Environmental History, Technology and Science. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.				Advanced course in the History of Ancient Christianity. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
4790	Readings in History	U	3	5710	History of Anatomy	U G	3
	Advanced readings on selected topics in history. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.				This course examines the history of anatomy as a way of categorizing and explaining the relationships of parts to wholes in once living creatures, notably human beings. We focus on the history of anatomical observations, education, modes of communication, and professionalization. Team-taught course with faculty member in Anatomy. Prereq: Anatomy 2220, 2300, or 3300; or Grad standing; or permission of both instructors. Cross-listed in Anatomy.		
4795	Research Seminar in History	U	3	5900	Introduction to Quantitative Methods in History	U G	3
	Advanced research and writing on selected topics in History. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.				Prepares students to use quantitative methods in historical research and to take intermediate courses in statistics and data analysis. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Not open to students with credit for 596. GE data only course.		
4795E	Research Seminar in History	U	3	6193.01	Independent Study in History	G	1 - 6
	Advanced research and writing on selected topics in History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.				The investigation of particular problems in various fields of history through graduate-level individual studies. Prereq: Grad standing. Not open to students with credit for 791. Repeatable to a maximum of 15 cr hrs or 5 completions.		
4797	Study at a Foreign Institution	U	1 - 6	6193.02	Independent Study in History	G	1 - 6
	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.				The investigation of particular problems in various fields of history through graduate-level individual studies. Prereq: Grad standing. Not open to students with credit for 791. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.		
4998	Undergraduate Research in History	U	1 - 6	6194	Graduate Group Studies	G	1 - 6
	Undergraduate research in history. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.				The investigation of particular problems in various fields of history. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs or 4 completions.		
4998E	Honors Undergraduate Research in History	U	1 - 6	6999	Master's Thesis Research	G	1 - 12
	Honors undergraduate research in History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.				Research for Master's thesis. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.		
4998H	Honors Undergraduate Research in History	U	1 - 6	7000	Studies in Early American History to 1877	G	1 - 6
	Honors undergraduate research in History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.				Graduate readings in selected topics in Early American history to 1877. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.		
4999	Undergraduate Research Thesis	U	1 - 6	7001	Graduate Readings in Colonial America	G	1 - 6
	Informal conferences to allow full scope to the initiative of the student; a special topic is assigned and results are tested by papers and special examinations. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.				Readings in the historical literatures of Colonial America in its Atlantic World context to 1763. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.		
4999H	Honors Undergraduate Research Thesis	U	1 - 6	7002	Graduate Readings in the American Revolution and Early Republic	G	1 - 6
	Informal conferences to allow full scope to the initiative of the student; a special topic is assigned and results are tested by papers and special examinations. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.				Readings in the historical literatures of the American Revolution and early nation-building through approximately 1800. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.		
7003	Graduate Readings in the Early Republic & Antebellum America	G	1 - 6	7011	Historiography of Modern U.S. I	G	1 - 6
					Reading in the historical literatures of the Early and Antebellum Republics from approximately 1800 through the 1850s. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.		
7012	Historiography of Modern U.S. II	G	3	7011	Historiography of Modern U.S. I	G	1 - 6
					Readings in Modern US history, 1877-1945. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.		
					Readings in Modern US history, 1945 to present. Prereqs: Undergrad requires permission of instructor. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.		

236 History

7014	Studies in American Urban History	G	1 - 6
Graduate Reading Seminar in American Urban History. Chronology and Themes will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7080	Studies in African American History	G	1 - 6
Readings in black culture, society, politics, and race relations. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AfAmAST.			
7086	The Civil Rights and Black Power Movements	G	1 - 6
This course examines the origins, evolution, and outcomes of the African American freedom struggle, focusing on the Civil Rights and Black Power movements. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AAAS 7086.			
7087	Black Women in the United States	G	1 - 6
A study of historical and related scholarship on the history and experience of black women in the United States. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AfAmAST.			
7193.01	Independent Study in History	G	1 - 6
The investigation of particular problems in various fields of history through graduate-level individual studies. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7193.02	Independent Study in History	G	1 - 6
The investigation of particular problems in various fields of history through graduate-level individual studies. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.			
7210	Graduate Reading Seminar in Ancient History	G	3
Graduate seminar, with focus on methodological approaches to ancient history and/or a particular problem or theme in Greek, Roman, late antique, or Byzantine history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.			
7230	Studies in Medieval History	G	1 - 6
Advanced reading course in sources and monographs on the principal issues and problems in medieval history, with a stress on bibliography. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7240	Studies in Early Modern European History	G	3
Selected topics in western European history of the 17th and 18th centuries. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.			
7255	Studies in 20th Century European History	G	1 - 6
This intensive reading course is designed to give graduate students an introduction to historiographical questions in 20th-century European history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7260	Studies in British History	G	1 - 6
Reading in British History. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7265	Studies in French History	G	1 - 6
Selected topics in French political, social, cultural, and intellectual history and historiography. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7269	Studies in German History	G	1 - 6
Graduate readings in German and European history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7275	Studies in Eastern European History	G	1 - 6
Selected topics in Eastern European political, social, cultural, and intellectual history and historiography; theoretical and comparative emphasis. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7280	Studies in Russian, Soviet, and Eurasian History	G	3
Graduate readings seminar on Russian, East European, and Eurasian history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.			
7301	African Historiography and Methodology	G	3
The study of sources, research methods, interpretations, and research trends in the field of African history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs. Cross-listed in AfAmAST.			
7303	Comparative History of the African Diaspora and Post-Emancipation, Colonial, & Post-Colonial Reality	G	3
Examination of social, political, and cultural developments and realities in the Black world, from the period of the emancipation to the beginning of the 21st century. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs. Cross-listed in AfAmAST.			
7350	Studies in Islamic History	G	3
Graduate reading seminar on a topic in Islamic history, stressing topical coverage and/or historiography. May be repeated for credit when the topic changes. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.			

7400	East Asia and the Pre-Modern World	G	1 - 6
Role of East Asia in the early modern world system, examining the changing relationships between East Asia, Southeast Asia, Central Asia, the European and New World empires. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7405	Introduction to Graduate-level East Asian Studies	G	1
The origins, development and current state of East Asian Area Studies in the U.S., including East Asian Studies relationship with other intellectual disciplines. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 797, EALL 7897 (797), or HistArt 6801 (797). This course is graded S/U. Cross-listed in EALL 7897 and HistArt 6801.			
7410	Studies in Pre-Modern Chinese History	G	1 - 6
Intensive study, through reading and discussion, of major issues and recent scholarship in pre-modern Chinese history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7411	Studies in Modern and/or Contemporary Chinese History	G	1 - 6
Intensive study, through reading and discussion, of major issues and recent scholarship in modern and/or contemporary Chinese history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7425	Studies in Japanese History	G	3
An intensive study, through reading and discussion, of major issues and recent scholarship in Japanese history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.			
7500	Studies in International History	G	3
Colloquium in International History. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.			
7550	Studies in Military History	G	3
Studies in military history; emphasis on military institutions and activities in war and peace, along with works of historiographical interest to the military history field. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.			
7575	Studies in Military Thought and Strategy	G	1 - 6
Analysis and comparison of the most influential writers on the theory and practice of warfare including Thucydides, Machiavelli, Clausewitz, Jomini, Mahan, and Liddell Hart. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7600	Studies in the History of Women and Gender	G	1 - 6
Readings course for graduate students focusing on the history of women and gender. The course content will be international, emphasizing cross-cultural comparisons. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7630	Studies in the History of Sexuality	G	1 - 6
International and Interdisciplinary Readings in Sexuality History. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7650	Studies in World History	G	1 - 6
Analysis of seminal works and concepts in the development of global-scaled integrative approaches to world history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7680	Studies in the History of Children, Childhood and Youth	G	3
Readings course focusing on the history of children, childhood and youth. The course content will be international, emphasizing cross-temporal and cross-cultural comparisons. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.			
7700	Graduate Readings in Environmental History	G	1 - 6
Graduate level readings course in the historiography and key themes in environmental history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7705	Graduate Readings in the History of Technology	G	1 - 6
Graduate level readings in the history of technology. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7711	Graduate Readings in the History of Medicine and Health	G	3
A graduate readings course that introduces students to the history of medicine and health as a historical field and will explore how work in the history of medicine and health intersects with scholarly insights in other fields. Prereq: Grad standing.			
7725	Graduate Readings In Power, Culture and State	G	1 - 6
Graduate readings in comparative topics in power, culture, and the state. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			
7755	The History of the Idea of Race in Europe	G	1 - 6
Examines the use and abuse of ideas of race in Western Europe from the Enlightenment to the present. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.			

7797	Study at a Foreign Institution	G	1 - 6	8410	Chinese History Research Methodology	G	1 - 6
	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.				Introduction to sources and methods in Chinese historical research (pre-modern and modern periods).		
	Prereq: Grad standing, and permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.				Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.		
7800	Introduction to Public History	G	1 - 6	8500	Seminar in International History	G	1 - 6
	Survey of the field of Public History.				Graduate Research Seminar in International and Diplomatic History. Topics will vary.		
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.				Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.		
7801	Independent Study in Public History	G	1 - 6	8550	Seminar in Military History	G	3
	Permits individual students, or small groups of students to pursue independent work in public history with a faculty sponsor.				Graduate Research Seminar in Military History. Topics will vary.		
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.				Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.		
7881	Interdepartmental Seminar	G	1 - 6	8600	Seminar in Women's/Gender History	G	1 - 6
	Two or more departments may collaborate in pressing seminars on subjects of mutual interest; topics to be announced.				Graduate Research Seminar in Women's/Gender History. Topics will vary.		
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.				Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.		
7884	History of Literacy/Literacy Past and Present	G	1 - 6	8630	Seminar in the history of Sexuality	G	1 - 6
	Graduate Readings in the History of literacy in ongoing societies and culture; emphasis on changing ideas and impacts of literacy and its acquisition, uses, and consequences.				Graduate Research Seminar in the History of Sexuality. Topics will vary.		
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in English and CompStd.				Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.		
7900	Colloquium in the Philosophy of History, Historiography, and the Historian's Skills I	G	3	8650	Seminar in World/Global/Transnational History	G	1 - 6
	Colloquium on the principles of historical thought, historiography, and methods of historical research.				Graduate Research Seminar in World/Global/Transnational History. Topics will vary.		
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.				Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.		
7901	Colloquium in the Philosophy of History, Historiography, and the Historian's Skills II	G	3	8999	Dissertation Research	G	1 - 12
	Colloquium on the principles of historical thought, historiography, and methods of historical research. Particular attention is paid to historical methods.				Research for dissertation.		
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.				Prereq: Grad standing. Repeatable. This course is graded S/U.		
7905	Pedagogy & Professional Development	G	1 - 6				
	Basic ideas and techniques for effective teaching of college history; emphasis on classroom application. Also, professional development, esp. locating funding sources for their study, research, conferences & other professional activities.						
	Prereq: Grad standing. Not open to students with credit for 795.01. This course is graded S/U.						
7910	Prospectus Writing & Professional Development	G	3				
	Seminar dedicated to researching and writing Dissertation Prospectus. Also review of professional development skills: grant writing, building a resume and planning a career, how to write and present a conference paper, book reviews.						
	Prereq: Grad standing. Not open to students with credit for 795.02. This course is graded S/U.						
8000	Seminar in Early American History to 1877	G	3				
	Graduate Research Seminar in Early American History to 1877. Topics will vary.						
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.						
8010	Seminar in Modern U.S. History	G	3				
	Graduate Research Seminar in Modern U.S. History. Topics will vary.						
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.						
8100	Seminar in Latin American History	G	3				
	Graduate Research Seminar in Latin American History. Topics will vary.						
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.						
8210	Seminar in Ancient History	G	1 - 6				
	Graduate Research Seminar in Greek, Roman, Late Antique, or Byzantine History. Topics will vary.						
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.						
8230	Seminar in Medieval History	G	3				
	Graduate Research Seminar in Medieval History. Topics will vary.						
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.						
8250	Seminar in Modern European History	G	3				
	Graduate Research Seminar in Modern European History. Topics will vary.						
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.						
8280	Seminar in Russian, East European and Eurasian History	G	1 - 6				
	Graduate Research Seminar in Russian, East European, and Eurasian History. Topics will vary.						
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.						
8350	Seminar in the History of the Islamic World	G	1 - 6				
	Graduate Research Seminar in the History of the Islamic World. Topics will vary.						
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.						
8400	Seminar in East Asian History	G	1 - 6				
	Graduate Research Seminar in East Asian History. Topics will vary.						
	Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.						

238 History of Art

2301 Classical Archaeology	U	3	4016 Senior Research Seminar in History of Art	U	3
Introduction to the principles, methods, and history of archaeological investigation in the ancient Greek and Roman world, illustrated through a selection of major classical sites. Prereq: Not open to students with credit for 240, 306, Clas 2301 (Classics 240), or History 2210 (240 or 306). GE cultures and ideas and historical study and diversity global studies course. Cross-listed in Clas 2301 and History 2210.			A research seminar required of all History of Art majors designed to develop and perfect their research and writing skills. Prereq: 4001 or 4010; or permission of instructor.		
2901 Introduction to World Cinema	U	3	4020 Special Topics in Architecture	U	3
Chronological survey of the most influential and recognized film artists and film movements of the world. GE VPA and diversity global studies course.			This is a lecture course, the contents of which would change with each offering. Prereq: 2001 (201), or 2002 (202), or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
3002 The History of Western Architecture	U	3	4050 Art of Paris	U	3
Major buildings of Western Civilization from antiquity to the present in their historical and cultural contexts. Prereq: Not open to students with credit for 250, or 300, or more than one course from 2001-2002 (201-202) or from 210-212 sequences, or Arch 1220 (201), or any course from Arch 5110-5120 (600-602) sequence. GE VPA and diversity global studies course.			Study of the painting, sculpture, buildings, and public and private spaces created in and for the people of Paris. Prereq: Soph standing. Not open to students with credit for 550.		
3005 Christian Art	U	3	4191 Internship in Art History	U	1 - 3
An introduction to the wide range of forms and functions of Christian images and spaces from the origin until 1700. Prereq: Soph standing. Not open to students with credit for 301. GE VPA course.			A cooperative education or internship assignment conducted under the supervision of a faculty member. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.		
3010H Gender and Sexuality in Western Art	U	3	4193 Individual Studies	U	1 - 3
Introduction to the study of gender and sexuality in the history of art. Topics to be explored include the construction of gender through visual images, viewership and the gaze, the historical status of female artists and patrons, queer and feminist art history, and the depiction of the body. GE VPA course.			Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.		
3102 Arts and Cultures of Africa and the Diaspora	U	3	4212 Egyptian Art and Archaeology	U	3
An overview of African and African diaspora cultures from a historical perspective. Cultural media will include art, literature, film, dance and photography. Prereq: Not open to students with credit for AfAmAST 3376 (376). GE VPA and diversity global studies course. Cross-listed in AfAmAST 3376.			A specialized study of the architecture, sculpture, painting, and minor arts of ancient Egypt. Prereq: 2001 (201), or equiv with permission of instructor. Not open to students with credit for 621 or 521.		
3211 Art and Civilization in the Near East	U	3	4301 Art of Ancient Greece and Rome	U	3
An examination of the development of the visual arts and architecture of the Near East from the Neolithic Revolution to the Islamic period. Prereq: Soph standing. Not open to students with credit for 305. GE VPA course.			Explores the art of Ancient Greece and the Roman world from the early Bronze Age (c. 3000 BCE) through the era of Constantine (337 CE). While focusing on sculpture, painting and architecture, the approach in this course will also employ the methods of a wide variety of disciplines, including art history, archaeology, anthropology, history, epigraphy and Classical philology. Prereq: Not open to students with credit for Clas 4301. Cross-listed in Clas.		
3521 Renaissance Art in Italy	U	3	4421 Medieval Art	U	3
Art and society in Renaissance Italy. Prereq: Soph standing. Not open to students with credit for 315, 515, 4521 (529), or 4630 (530). GE VPA and diversity global studies course.			Art and architecture of Europe and the Eastern Mediterranean from the 5th to the 15th centuries; focuses on visual culture of monasteries, cathedrals, and castles. Prereq: Soph standing. Not open to students with credit for 603, 625, 651, 525. GE VPA and diversity global studies course.		
3603 Introduction to Modern and Contemporary Latin American Art and Culture	U	3	4510 Northern Renaissance Art	U	3
Provides students with an overview of the major trends and movements of Latin American art and culture from the late 19th to the 21st centuries. GE VPA and diversity global studies course.			Art of Northern Europe from the late 14th to the mid 16th century, with emphasis on the major masters. Prereq: 2001 (201), or 2002 (202), or permission of instructor. Not open to students with credit for 527 or 627.		
3605 History of Photography	U	3	4531 17th-Century Art of the Netherlands	U	3
A thematic overview and critical introduction to the main debates and achievements in the history of photography. Prereq: Not open to students with credit for 345. GE VPA course.			17th Century Dutch and Belgian art: focuses on major artists and various functions of art (propagating religious beliefs, shaping values, defining identities). Prereq: 2001 (201), 2002 (202), or permission of instructor. Not open to students with credit for 533.		
3605H Honors History of Photography	U	3	4541 17th-Century Art of Italy and Spain	U	3
This course will begin with the emergence of photography and will provide a thematic overview and critical introduction to the main debates and achievements in the history of photography. No previous experience in photography required. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 3605. GE VPA course.			17th century Italian and Spanish art and architecture: focuses on major artists and various functions of art and architecture. Prereq: 2001 (201), or 2002 (202), or permission of instructor. Not open to students with credit for 523 or 631.		
3611 Impressionism, Then and Now	U	3	4550 18th-Century European Art	U	3
An examination of the emergence and evolution of French Impressionism and its impact on subsequent artistic production from the early 20th century to the present. GE VPA course.			Artistic trends in eighteenth century Venice, Rome, Paris and London. Prereq: 2002, or permission of instructor. Not open to students with credit for 534 or 634.		
3901 World Cinema Today	U	3	4605 Aspects of Modernity	U	3
An introduction to the art of international cinema today, including its forms and varied content. Prereq: Soph standing, or permission of instructor. Not open to students with credit for 350. GE VPA and diversity global studies course.			Explores questions of the distinctively "modern" in relation both to particular works of art and to various explicit reflections on broader cultural notions of modernity. The content will change with each offering. Prereq: English 1110 (110), and Soph standing. Not open to students with credit for 340. GE VPA course.		
4001 Writing Seminar in History of Art	U	3	4620 Twentieth-Century European Art	U	3
Training in writing a variety of assignments commonly undertaken by art historians. Prereq: History of Art Major. Not open to students with credit for 415.			Historical/Conceptual survey of European art of the twentieth century. Prereq: 2002 (202) or 4605 (340), or permission of instructor. Not open to students with credit for 540.		
4005 An Introduction to Artistic Media and Techniques	U	3	4621 Twentieth-Century Architecture	U	3
A survey of the major historical and contemporary artistic media and techniques. Prereq: History of Art major, or permission of instructor. Not open to students with credit for 450.			A historical and conceptual survey of architecture from the late 19th century to the beginning of the 21st and portions of the late 21st century developments. Prereq: 2002 (202), or permission of instructor. Not open to students with credit for 559.		
4010 An Introduction to the Methods and Theories of Art History	U	3			
An introduction to the fundamental methods and theories of art historical investigation. Prereq: History of Art major, or permission of instructor.					

4640 Contemporary Art Since 1945	U	3	5322 Art and Archaeology of the Roman Empire	U G	3
Visual arts of Europe and the United States from 1945 to the present. Prereq: 2002 (202), or permission of instructor. Not open to students with credit for 541.			Study of the art and archaeology of Rome and its empire from the accession of Augustus to the time of Constantine (27 BCE-336 CE). Prereq: 2001 (201) or 2002 (202); or Grad standing; or permission of instructor. Not open to students with credit for Clas 5322. Cross-listed in Clas.		
4810 The Arts of China	U	3	5422 Medieval and Renaissance Manuscript Illumination	U G	3
An overview of the visual arts of China and their cultural context from prehistoric times to the modern era. Prereq: Soph standing, or permission of instructor. Not open to students with credit for 576. GE VPA and diversity global studies course.			A chronological survey of Medieval and Renaissance illuminated manuscripts in the West. Prereq: 2001 (201), or Grad standing, or permission of instructor. Not open to students with credit for 652.		
4815 Modern and Contemporary Chinese Art	U	3	5521 Renaissance Painting in Central Italy	U G	3
Modern Chinese art (late 19th century to today) with emphasis on artists, artworks, and their social, artistic, institutional, and theoretical contexts. Prereq: Soph standing. Not open to students with credit for 679.			A history of the arts of Florence and Rome from 1400 to 1600. Prereq: 2002 (202), or Grad standing, or permission of instructor.		
4820 The Arts of Japan	U	3	5562 Art and History in Early Modern Latin America, 1492-1820	U G	3
Major trends in the visual arts of Japan, from prehistory through the 19th century. Prereq: English 1110 (110) or 111 or equiv. Not open to students with credit for 582. GE VPA and diversity global studies course.			Explores the visual culture of early modern Latin America through studies of wide range of objects—from featherwork shields to beadwork “idols” to paintings on paper and canvas—interpreted from a range of disciplinary (art history, anthropology, history) and theoretical perspectives.		
4825 From Modernism to Manga: Modern and Contemporary Art in Japan	U	3	5611 European Art in the Age of Revolution, 1774-1851	U G	3
Explore the arts of Japan from 1868-present, covering a wide range of materials, including sculpture, performance art, photography, contemporary painting, and manga. We will discuss historical & social contexts and the burst of the economic bubble in the 1990s. We will address issues such as gender and representations of the body, the cult of cuteness, and the dynamics of nationalism since 1945. GE VPA and diversity global studies course.			Survey of major trends in European art from the French Revolution until the middle of the 19th Century. Prereq: 2002 (202), or 4610 (535), or Grad Standing, or permission of instructor. Not open to students with credit for 657.		
4998 Undergraduate Scholarship: Research and Creative Activity in History of Art	U	1 - 3	5612 European Art in the Age of Empire, 1852-1900	U G	3
Undergraduate research or creative activities in varying topics. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			Survey of major trends in European art from 1852 until the end of the 19th Century. Prereq: 2002 (202), or 4610 (535), or Grad standing, or permission of instructor. Not open to students with credit for 658.		
4998H Undergraduate Research (Honors)	U	1 - 3	5621 Post-Impressionism to Dada	U G	3
Undergraduate research or creative activities in varying topics. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			Survey of major trends in European art from circa 1880 to the aftermath of World War I. Prereq: 2002 (202), or Grad standing, or permission of instructor. Not open to students with credit for 636.01.		
4999 Thesis Research	U	1 - 3	5622 From Dada to Dictatorship	U G	3
Undergraduate research or creative activities in varying topics. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			European art between the World Wars: Post-Cubism, Dada and Surrealism, Bauhaus and Constructivism, and Abstraction. Prereq: 2002 (202), or Grad standing, or permission of instructor. Not open to students with credit for 636.02.		
4999H Thesis Research Honors	U	1 - 3	5641 Postmodernism	U G	3
Undergraduate research or creative activities in varying topics for an Honors thesis project. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			Exploration of the central issues in the claim to the emergence of a distinctly “postmodern” art in the last part of the 20th century. Prereq: 4620 (540), or 4640 (541), or Grad standing, or permission of instructor. Not open to students with credit for 641.		
5001 Topics: Western Art	U G	3	5643 New Media Art and Theory	U G	3
Topics to be announced. Repeatable to a maximum of 9 cr hrs.			An investigation of the art and theory of contemporary new media.		
5002 Topics in Asian and Non-Western Art	U G	3	5645 Video Art	U G	3
Topics to be announced. Repeatable to a maximum of 9 cr hrs.			Introduces students to video as an artistic medium by studying its contentious past, multiple forms, and the trajectories of this expanding field. Prereq: Not open to students with credit for 640.		
5060 Alternative Histories	U G	3	5711 Art of India I	U G	3
An exploration of the strategies and techniques developed by both academic and non-academic historians to re-imagine the past, with an emphasis on interpreting non-alphabetic traces of the past.			Art and Architecture of India from Pre-Historic Times to circa 1200. Prereq: Not open to students with credit for 671.		
5222 Later Islamic Art	U G	3	5815 The Lyric Journey: Chinese Painting of the Tang and Song Periods (618-1279)	U G	3
Introduction to the history of Islamic art and architecture in the later period (14th through the 18th centuries) including the Mongol, Timurid, Mamluk, Ottoman, Safavid, and Indo-Muslim art. Prereq: 2001 (201), or 2002 (202), or 2003 (213), or Grad standing, or permission of instructor. Not open to students with credit for 664.			A survey of Chinese painting from the Tang and Song Periods (618-1279), with emphasis on style, subject matter, and cultural context. Prereq: Soph standing. Not open to students with credit for 678.01.		
5311 Art and Archaeology of Preclassical Greece	U G	3	5816 Images of the Mind: Chinese Painting of the Yuan and Ming Periods (1279-1644)	U G	3
Study of the art and archaeology of Ancient Greece from the early Bronze Age (c. 3000 BCE) through the Archaic period (c. 480 BCE). Prereq: 2001 (201), or 522, or equiv preparation in Classical Studies or Ancient history; or Grad standing. Not open to students with credit for Clas 5311. Cross-listed in Clas.			A survey of Chinese painting from the Yuan and Ming periods, with emphasis on style, subject matter, and cultural context. Prereq: Soph or Grad standing, or permission of instructor. Not open to students with credit for 678.02		
5312 Art and Archaeology of Classical Greece	U G	3	5901 Silent Cinema, 1895-1927	U G	3
Study of the art and archaeology of Ancient Greece during the Classical period (c. 480-300 B.C.). Prereq: 2001 (201) or 2002 (202), or Grad standing; or permission of instructor. Not open to students with credit for Clas 5312. Cross-listed in Clas.			A study of the development of silent film as an international art form. Prereq: Soph standing. Not open to students with credit for 647.		
5321 Art and Archaeology of the Hellenistic Mediterranean and Roman Republic	U G	3	5905 Avant-Garde Cinema	U G	3
Study of the art and archaeology of the Hellenistic Mediterranean, including the Roman Republic. Prereq: 2001 (201) or 523, or equiv, or Grad standing. Not open to students with credit for Clas 5321. Cross-listed in Clas.			A survey of significant historical contributions to avant-garde cinema. Prereq: Jr standing. Not open to students with credit for 650.		
			5910 History of Documentary Cinema	U G	3
			Historical, chronological survey of significant ideas about and contributions to documentary cinema. Prereq: Jr standing. Not open to students with credit for 653.		

240 History of Art

6001	Historical and Conceptual Bases of Art History	G	3	8821	Studies in Japanese Art	G	4
	Investigation of intellectual and historical foundations of modern art history. Prereq: 20 cr hrs in HistArt. Not open to students with credit for 715.				Advanced study and specialized research in the history of Japanese art. Prereq: 5821 (681), 5822 (682), or 8821 (780), or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
6015	Practicum for Graduate Teaching Associates in the History of Art	G	1	8901	Cinema Studies	G	4
	A teacher-training and professional development workshop for new Graduate Teaching Associates in Art History. Prereq: Open only to students with a GTA appointment in the department of history of art. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.				Intensive studies of specific movements, artists, periods and theories of cinema. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.		
7015	Curatorial Studies: Exhibition Histories	G	4	8999	Dissertation Research in History of Art	G	1 - 12
	This course examines the art exhibition (from the 19th century to the present) as an exemplary cultural form. It traces the history of modern art through specific exhibitions that have redefined the parameters of art-making, on the one hand, and its reception on the other, defining along the way the terms that inform curatorial practice. Prereq: Grad standing.				Research for dissertation purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
7020	Curatorial Elective	G	4				
	Courses offered under this number serve as electives within the Contemporary Art and Curatorial Practice program. They are designed to examine specific curatorial topics, and are sometimes offered in conjunction with current exhibitions. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs.						
7189.01	Curatorial Practicum: Exhibition Planning	G	2				
	This course is intended to give students in the Contemporary Art and Curatorial Practices MA program the opportunity to design and prepare an exhibition. Prereq: Students must be in their final year of the MA program in Contemporary Art and Curatorial Practice. This course is graded S/U.						
7189.02	Curatorial Practicum: Exhibition Execution	G	4				
	This course is intended to give students in the Contemporary Art and Curatorial Practices MA program the opportunity to install an exhibition of their own design and to write the accompanying catalog essays. Prereq: 7189.01. This course is graded S/U.						
8000	Topics in Art History	G	3				
	A graduate-level equivalent of a course being offered at the 500-level. Prereq: Grad standing. Not open to students with credit for 890. Repeatable to a maximum of 6 cr hrs.						
8001	Studies in Art Theory and Criticism	G	4				
	Investigations of theories of art and their applications. Prereq: 5640 (600), or permission of instructor. Not open to students with credit for 839 or 710. Repeatable to a maximum of 12 cr hrs.						
8193	Individual Studies	G	1 - 3				
	Advanced study for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.						
8401	Studies in Medieval Art	G	4				
	Selected problems in architecture, painting, sculpture, and the minor arts from the Early Christian through Byzantine and Gothic periods. Repeatable to a maximum of 12 cr hrs.						
8521	Studies in Italian Renaissance Art	G	4				
	Advanced study and specialized research on topical problems in the painting, sculpture, and architecture of Italy in the 14th, 15th, and 16th centuries. Repeatable to a maximum of 12 cr hrs.						
8531	Studies in Northern Baroque Art	G	4				
	Advanced study and specialized research on topical problems in the painting, sculpture, and architecture of Belgium, the Netherlands, Germany and France in the 17th century. Prereq: 5531 (632), or permission of instructor. Repeatable to a maximum of 12 cr hrs.						
8561	Studies in Latin American Art	G	4				
	Advanced study and specialized research on topical issues in Latin American Art. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.						
8601	Studies in Modern Art	G	4				
	Advanced study and specialized research on topical problems in the art of the United States or modern Europe. Prereq: Grad level course in Modern Art, or permission of instructor. Repeatable to a maximum of 12 cr hrs.						
8641	Wexner Seminar	G	1 - 4				
	Graduate seminar offered in conjunction with Wexner exhibitions, performance series, media series, or symposia; may be taught by visiting artists, performers, or critics. Repeatable to a maximum of 12 cr hrs or 12 completions. Cross-listed in CompStd 8891.						
8811	Studies in Chinese Art	G	4				
	Advanced study and specialized research in the history of Chinese art. Prereq: 5811 (677), 5815 (678), or 5816, or permission of instructor. Repeatable to a maximum of 12 cr hrs.						

Honors, University

2296H	University Honors Proseminar	U	1 - 3
	Designed to foster an understanding of concepts, issues, and problems which transcend the boundaries of a single discipline; topic varies. Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.		
2396H	London Honors	U	3
	An introduction to British life and culture. Students study the formation of British rule, political structures, immigration, diversity, global position, art, and literature and how these experiences have shaped the worldviews, beliefs, policies, and practices of English society. At the end of the semester, students participate in a week long study abroad in London/England. Prereq: Honors standing, and enrollment in London Honors program, and permission of department. GE education abroad course.		
2596H	Interdisciplinary and Collaborative Research	U	3
	Provides an introduction to and practicum on interdisciplinary and collaborative research and creative activity. Students separate into teams and execute a project of their own, the results of which will be shared in the final weeks of the semester. The students, guided by faculty, will formulate projects that relate specifically to the Ohio State University. Prereq: Honors standing. GE cross-disciplinary seminar.		
3596H	University Honors Seminar	U	1 - 3
	University Honors Seminar. Prereq: Honors standing. Repeatable to a maximum of 9 cr hrs or 3 completions.		

Horticultural Technology

1201T	Exploring Horticulture	U	1/2
	Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.		
2110T	Plant Materials I	U	3
	Plant identification course to include: trees, shrubs, evergreens, vines, annuals, perennials and tropical plants common to the Midwest covering: identification, morphology, classification, nomenclature and adaptability. A grade of C or better required to meet graduation requirements for Landscape Horticulture and Turfgrass Management. Prereq: Not open to students with credit for 243T and 244T. This course is available for EM credit.		
2120T	Plant Materials II	U	3
	Plant identification including: less common deciduous and evergreen trees, shrubs, vines and herbaceous plants common to the Midwest covering: identification, morphology, classification, nomenclature and adaptability. A grade of C or better is required to meet graduation requirements for Landscape Horticulture. Prereq: Not open to students with credit for 243T and 244T. This course is available for EM credit.		
2140T	Horticultural Photography	U	1
	Introductory digital photography and image editing course emphasizing composition, lighting, and exposure. Digital correction and editing with emphasis on horticultural marketing and portfolio development. Prereq: Not open to students with credit for 270T. This course is available for EM credit.		
2150T	Horticultural Root Media	U	2
	Study of horticultural root media, including functions, texture, structure, ingredients, preparation, pasteurization, pore spaces, water and nutrient holding capacity, pH, irrigation practices and containers. This course is available for EM credit.		
2189.10T	Practicum in Floral Design	U	1 - 2
	Supervised experiences in floral design and flower shop work. A grade of C or better is required to meet graduation requirements. Prereq: 2600T. Repeatable to a maximum of 4 cr hrs or 4 completions.		
2189.21T	Practicum in Greenhouse Management	U	1
	Supervised experiences in greenhouse crop production. A grade of C or better is required to meet graduation requirements. Repeatable to a maximum of 4 cr hrs.		

Horticultural Technology 241

2189.22T Practicum in Nursery Management	U 1	2227T Turfgrass Reel Mower Maintenance	U 3
Supervised experiences in nursery crop production and management. A grade of C or better is required to meet graduation requirements.		Theory, configuration, and maintenance of turfgrass reel mower cutting units, including a study of the bedknife attitude, spin vs relief grinding, backlapping, bedknife selection.	
Repeatable to a maximum of 4 cr hrs.			
2189.30T Practicum in Landscape Horticulture	U 1 - 2	2230T Fundamentals of Turfgrass Science and Management	U 3
Supervised experiences in landscape maintenance work. A grade of C or better is required to meet graduation requirements.		Identification, growth and development characteristics and responses, uses, and fundamental practices essential to the production and management of fine quality turf. A grade of C or better required to meet graduation requirements for Landscape Horticulture and Turfgrass Management.	
Repeatable to a maximum of 4 cr hrs or 4 completions.		Prereq or concr: GenBiol 1250T and GenMath 1040T or Math 1050 or math placement level R or higher. This course is available for EM credit.	
2189.50T Turfgrass Management Practicum	U 1	2240T Golf Course and Sports Turf Irrigation and Drainage	U 3
Practical experience in supervised horticultural/turfgrass laboratories, with emphasis on developing and improving competencies related to classroom, laboratory and career activities. A grade of C or better is required to meet graduation requirements.		Principles of design, selection, installation, maintenance, and operation of equipment and materials used in golf course and sports turfgrass irrigation and drainage systems. A grade of C or better required to meet graduation requirements for Turfgrass Management.	
Prereq: Open to Turfgrass Management major. Repeatable to a maximum of 3 cr hrs.		Prereq: GenMath 1040T or Math 1050 or math placement level R or higher.	
2190.10T Practical Leadership in Floral Design	U 1 - 2	2250T Turfgrass Cultural Systems and Practices	U 3
Supervised experiences in flower shop leadership and management. A grade of C or better is required to meet graduation requirements.		A study of cultural and environmental factors related to maintaining fine turfgrasses with special emphasis on mathematical calculations and materials applications. A grade of C or better required to meet graduation requirements for Turfgrass Management.	
Prereq: 2189.10T (264T and 268T). Repeatable to a maximum of 2 cr hrs or 2 completions.		Prereq: 2225T (EngTech 219T), 2230T (223T). Not open to students with credit for 225T.	
2190.21T Practical Leadership in Greenhouse Management	U 1	2260T Sports Turf Operations Organization and Management	U 3
Supervised experiences in greenhouse leadership and management. A grade of C or better is required to meet graduation requirements.		Specialized course in sports turf management including the organization, design, construction, equipment, field surface quality, safety, personnel, finances, renovation, and maintenance of a sports turf facility. A grade of C or better required to meet graduation requirements for Turfgrass Management.	
Prereq: 2189.21T. Repeatable to a maximum of 2 cr hrs.		Prereq: 2191.50T (290.05T), BioTech 2218T (218T). Prereq or concr: 2880T (272T) or 2890T (274T).	
2191.10T Floral Design and Marketing Internship	U 1 - 2	2270T Golf Course Organization and Management	U 3
Employment in the floral industry, structured to provide varied occupational experiences, supervised by an industry employer, and coordinated by faculty. A grade of C or better is required to meet graduation requirements.		Specialized course in golf course management including the organization, design, construction, equipment, personnel, finances, and maintenance of the golf course. A grade of C or better required to meet graduation requirements for Turfgrass Management.	
Prereq: 2189.10T (264T and 268T). Repeatable to a maximum of 4 cr hrs or 4 completions.		Prereq: 2191.50T (290.05T), BioTech 2218T (218T). Prereq or concr: 2880T (272T) or 2890T (274T). Not open to students with credit for 227T.	
2191.21T Greenhouse Management Internship	U 1 - 3	2320T Landscape Construction	U 3
Employment in the greenhouse industry, structured to provide varied occupational experiences, supervised by an industry employer, and coordinated by faculty. A grade of C or better is required to meet graduation requirements.		Techniques for building, pricing, bidding and installing various landscape plantings, features and structures including (but not limited to): pavers, retaining walls and wooden structures. A grade of 'C' or better required to meet graduation requirements for Landscape Horticulture.	
Prereq: 1201T and 2189.21T, and 2500T. Repeatable to a maximum of 6 cr hrs or 2 completions.		Prereq: GenMath 1040T or Math 1050 or math placement level R or better. This course is available for EM credit.	
2191.22T Nursery Management Internship	U 3	2360T Landscape Design	U 3
Employment in the nursery industry, structured to provide varied occupational experiences, supervised by an industry employer, and coordinated by faculty. A grade of C or better is required to meet graduation requirements.		Introduction to landscape drafting, CAD, design and planning emphasizing the design program, form composition, drafting techniques, design representation and 2 and 3-dimensional CAD. A grade of C or better required to meet graduation requirements for Landscape Horticulture.	
Prereq: 1201T and 2189.22T. Repeatable to a maximum of 6 cr hrs.		Prereq or concr: 2110T. Not open to students with credit for 231T.	
2191.23T Greenhouse Engineering Technology Internship	U 3	2410T Sustainable Nursery Management and Production	U 4
Experience of employment in the greenhouse industry, structured to provide varied occupational experiences, supervised by an industry employer, and coordinated by faculty. A grade of 'C' or better required to meet graduation requirements for Greenhouse and Nursery Management Greenhouse Engineering Technology specialization.		Principles of sustainable nursery management, marketing and production operations with an emphasis on nursery facilities and practices necessary to produce field grown and container nursery stock.	
Prereq: 1201T, 2189.21T, and 2500T. Repeatable to a maximum of 6 cr hrs.		Prereq: 2120T; and GenBiol 1250T (125T) or Biology 1113 (113). Not open to students with credit for 241T and 242T.	
2191.30T Landscape Horticulture Internship	U 3	2420T Garden Center Management	U 2
Employment in the landscape industry structured to provide varied occupational experiences. Supervised by an industry employer and coordinated by faculty. A grade of C or better is required to meet graduation requirements.		Principles of retail garden center management including sales, marketing, advertising, personnel management, customer relations and management of product lines, stock and displays.	
Prereq: 1201T (230T); a grade of C or above in 2110T (244T); GPA 2.0 or above. Repeatable to a maximum of 6 cr hrs.		Prereq: 2120T. Not open to students with credit for 248T.	
2191.50T Turfgrass Management Internship	U 3	2500T Greenhouse Environment Control	U 4
Employment in turfgrass management industry at an approved facility structured to provide varied occupational experiences. Supervised by an industry professional and coordinated by faculty. A grade of C or better required to meet graduation requirements.		Principles and practices of sustainable greenhouse operation and management. Topics include glazings, frames, heating, cooling, energy conservation, nutrition, irrigation, light, plant growth and operations management. A grade of C or better required to meet graduation requirements in Greenhouse and Nursery Management Nursery Specialization.	
Prereq: A grade of C or above in 2225T (289.05T and EngTech 219T), 2230T (223T) and 2250T (225T), and CPHR 2.0 or above. Repeatable to a maximum of 6 cr hrs.		Prereq: Not open to students with credit for 251T. This course is available for EM credit.	
2191.55T Turfgrass Equipment Manager Internship	U 2	2520T Greenhouse Perennial Production	U 3
Employment in turfgrass equipment management industry at an approved facility structured to provide varied occupational experiences. Supervised by an industry professional and coordinated by faculty. A grade of C or above required to meet graduation requirements.		Principles and practices of greenhouse perennial plant production, including propagation, vernalization, photoperiodic treatments, production techniques, integrated pest and plant health management, and post-harvest marketing.	
Prereq: A grade of C or above in 2225T and 2227T.		Prereq: 2500T (251T). Not open to students with credit for 255T. This course is available for EM credit.	
2193T Individual Studies	U 1 - 3	2540T Greenhouse Production of Annuals	U 3
Designed to give an individual student an opportunity to pursue special studies not offered in other courses.		Principles and practices of greenhouse bedding and flowering container plant production, including propagation, transplanting, nutrition, environmental requirements, height control, harvesting, pests, pathogens and post-harvest marketing.	
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		Prereq: 2500T.	
2194T Group Studies	U 1 - 3		
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.			
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
2225T Turf Equipment Operation and Maintenance	U 3		
Principles and practices of turf facilities organization and management, equipment maintenance, operation, safety and fleet management. A grade of C or better required to meet graduation requirements for Turfgrass Management.			
Prereq or concr: GenMath 1040T or Math 1050 or math placement level R or higher.			

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2560T	Greenhouse Vegetable Production	U	3	2201	Ecology of Managed Plant Systems	U	4
Principles and practices of greenhouse vegetable crop production, including propagation, production systems, nutrition, environmental requirements, management practices, harvesting, pests, pathogens, food safety and post-harvest handling.							
Prereq:	2500T.			Origin, diversification, and biogeography of plants inhabiting managed landscapes.			
GE nat sci bio course.							
2600T	Commercial Floral Design	U	4	2201E	Ecology of Managed Plant Systems	U	4
A basic course introducing the elements and principles of floral design as they relate to the construction of saleable flower arrangements and corsages.							
Prereq:	Not open to students with credit for 262T and 264T. This course is available for EM credit.			Origin, diversification, and biogeography of plants inhabiting managed landscapes.			
Prereq: Honors standing. GE nat sci bio course.							
2620T	Retail Flower Shop Operation	U	2	2202	Form and Function in Cultivated Plants	U	4
Principles and practices of management and operation of a retail flower shop with emphasis on purchasing, pricing, merchandising, selling, delivery and wire services.							
Prereq:	2600T. This course is available for EM credit.			An introduction to plant growth and development with special emphasis on structure function relationships important to productivity and quality in cultivated plants.			
Prereq: Not open to students with credit for 300, 300E, 310, 315, or PlntBio 300. GE nat sci bio course.							
2640T	Flowers for Celebrations	U	4	2202E	Form and Function in Cultivated Plants	U	4
A specialized course dealing with consulting, planning, organizing and creating floral designs and decor for wedding ceremonies and receptions, parties, and celebrations of life.							
Prereq:	2600T (262T and 264T). Not open to students with credit for 265T and 269T.			An introduction to plant growth and development with special emphasis on structure function relationships important to productivity and quality in cultivated plants.			
Prereq: Honors standing. Not open to students with credit for 300, 300E, 310, 315, or PlntBio 300. GE nat sci bio course.							
2660T	Post-Harvest Flower Care	U	2	2250	Introduction to Professional Golf Management	U	2
Principles and practices of post-harvest flower care from producer to consumer with emphasis on identification and proper care and handling at the retail level.							
Prereq:	2640T. Concur: 2680T. Not open to students with credit for 263T. This course is available for EM credit.			Acquaints students with the PGM program, including program facilities and resources, components of the PGA/PGM Program, golf history, PGA Constitution, Career Enhancement, Golf Operations, and Customer Relations.			
Prereq: Not open to students with credit for 250 or 350. GE data only course.							
2680T	Contemporary Floral Design	U	3	2260	Data Analysis and Interpretation for Decision Making	U	3
An advanced course emphasizing the artistic nature of floral design with a global perspective of contemporary styles, techniques and trends.							
Prereq:	2640T. Concur: 2660T. Not open to students with credit for 267T.			Basic concepts of probability and statistics applied to the interpretation of quantitative data.			
Prereq: Math 1130 (130), 1148 (148), 1149, 1150 (150), 1151.01, 1151.02, or 1156. Not open to students with credit for 260, AEDEcon 2005 (205), AnimSci 2260 (260), ComLdr 3537 (387), or ENR 2000 (222). GE data only course.							
2720T	Arboriculture	U	3	2270	Historical Perspectives on Golf Course Design and Management	U	2
Principles of proper tree culture, management and care emphasizing planting, maintenance, evaluation, and diagnosis and care of tree problems.							
Prereq:	2110T (243T or 249T); and GenBiol 1250T (125T) or Biology 1113 (113). Not open to students with credit for 278T.			A historical survey of golf course design and management and its effect on contemporary design and management.			
Prereq: Not open to students with credit for 270.							
2740T	Plant Propagation	U	4	2305	Organic Gardening	U	1
Principles, techniques, skills, materials, and facilities used to propagate herbaceous and woody plants with emphasis on commercial propagation methods.							
Prereq:	GenBiol 1250T or Biology 1113 or HCS 2202.			An overview and assessment of organic gardening practices for sustenance and recreation.			
Prereq: Not open to students with credit for 305.							
2880T	Principles of Weed Science	U	3	2306	Sustainable Vegetable Production Practicum: Planning, Growing and Marketing	U	3
A study of weed classification, ecology, plant competition, herbicide formulation, properties and uses of herbicides and weed management in horticultural crops. A grade of C or better required to meet graduation requirements for Landscape Horticulture and Turfgrass Management.							
Prereq:	GenBiol 1250T (125T). Prereq or concur: GenChem 1100T (131T). Not open to students with credit for 272T or CrpSoil 2422T (266T). This course is available for EM credit.			Provides students with an introduction to small-scale vegetable farm planning and management through consideration of plant growth and production, farm design, farm management and operations, and produce marketing.			
Prereq: Not open to students with credit for 234.							
2890T	Plant Diseases of Ornamentals and Turf	U	3	2340.01	Woody Ornamental Plants	U	3
Principles and practices in diagnosing and treating plant diseases on woody ornamentals and turf. A grade of C or better required to meet graduation requirements for Landscape Horticulture and Turfgrass Management.							
Prereq:	2110T or 2120T or 2230T; GenBiol 1250T. This course is available for EM credit.			A survey of the most important woody ornamentals used in horticulture in the Midwest U.S. Weekly lectures will emphasize ornamental attributes, usage and management. Weekly plant walks (outdoor lecture) will emphasize plant identification.			
Prereq: Not open to students with credit for 234.							
3550T	Components of Greenhouse Technologies	U	3	2340.02	Herbaceous Ornamental Plants	U	3
A study of selected components of modern greenhouse technology, including electric motors, automated material handling and watering controls, pesticide application, and supplemental lighting.							
Prereq:	2500T; GenMath 1145T; EngTech 2312T and 2322T. This course is available for EM credit.			A survey of the most important annual and perennial herbaceous ornamentals used in horticulture in the Midwest U.S. Weekly lectures will emphasize ornamental attributes, usage and management. Weekly plant walks (outdoor lectures) will emphasize plant identification.			
Prereq: Not open to students with credit for 234.							
3560T	Integrated Greenhouse Climate Control	U	4	2401	Sustainable Landscape Design I	U	3
Computerized climate control for greenhouse plant production, including data acquisition and control basics, use of the data, and climate control strategies for improved production efficiency.							
Prereq:	2500T and 3550T. This course is available for EM credit.			An introduction to sustainable landscape design for residential and small scale properties with an emphasis on principles of design and graphic communication.			
Prereq: Not open to students with credit for 204.							
Horticulture and Crop Science				2501	Basic Golf Club Design and Repair	U	1
1100	Exploring Sustainable Plant Sciences and Prof Golf Mgt	U	½	Introduces students to fundamentals of modern golf club design and provides hands-on experience in basic golf club repair skills.			
Basic understanding of the global trends within sustainable plant systems and professional golf management, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.							
2194	Group Studies	U	1 - 3	Prereq: Not open to students students with credit for 3501 or 350.01, or students enrolled in the Professional Golf Management program.			
Special group studies in the area of horticulture and crop science. Repeatable to a maximum of 6 cr hrs or 6 completions.							
2200	The World of Plants	U	3	3100	Introduction to Agronomy	U	3
Study of the cultivation, environmental, genetic, and social/cultural factors which influence the sustainable production of plants for food, fiber, ornamental and recreational uses.							
Prereq:	Not open to students with credit for 200. This course is available for EM credit. GE nat sci bio course.			An introductory course of row crop and forage agricultural production (agronomy). This course introduces students to row and forage crop species common in Ohio and surrounding states, and provides fundamental information on how these crops are managed in the region. Management aspects include site preparation, seasonality of management activities, and fundamentals of nutrient and pest management.			
Prereq: 2201, 2201E, 2202, or 2202E.							
3200	Horticultural Science	U	3	3200	Horticultural Science	U	3
An introduction to the principles and practices of production and landscape horticultural science, and the horticultural industry in Ohio and the USA. Emphasis is on the diversity of horticultural crops, intensity of production systems, propagation beyond seeding, and diverse applications of the crops to address human nutritional and mental health issues, environmental quality & ecosystem service.							
Prereq:	2201 and 2202.						

3220 Crop Origins and Diversity	U 2	3521 Basic Greenhouse Production	U 2
A survey of plant taxonomy including principles of nomenclature and classification. Students will learn important botanical characteristics of major plant families. Course emphasis is on plant taxa of economic importance in horticulture and agricultural production.		Introduction to manipulating the greenhouse environment to grow plants. Includes identification of and specific requirements for growing plants commonly grown in greenhouses and shade structures.	
3310 Crop Responses to the Environment	U 3	Prereq: 2201 or 2202. Not open to students with credit for 321, or 5521 (521).	
The physiological basis of crop responses to abiotic and biotic environmental factors. Prereq: 2202 or 2202E, and Biology 1113 or 1113H.		3522 Sustainable Irrigation and Fertigation Systems	U 2
3320 Plant Propagation: The Manipulation of Plant Reproduction	U 3	Introduction to the basic concepts of irrigation and fertilizer injector (fertigation) systems as components of sustainable plant systems.	
Principles, methods, and facilities involved in the sexual and asexual multiplication of plants. Credit for 2201 highly recommended prior to enrollment. Prereq: 2202. Not open to students with credit for 320.		Prereq: 2201 or 2202, and Math 1148 or 1130.	
3370 Sports Turf Management	U 2	4191.01 Sustainable Plant Systems Major Internship	U 2
Issues pertaining to sports facility management, field surface safety and playing quality, field renovation techniques and sports turf IPM practices.		Gives students an overview of the variety of internships available as well as their importance in career selection. Students will rate their internships on their educational value and help comprehend post graduation HCS career options.	
Prereq: Not open to students with credit for 370. This course is available for EM credit.		Prereq: Enrollment in Sustainable Plant Systems major, and permission of instructor. Not open to students with credit for 489.	
3380 The Latino Workforce in Land Based Industries	U 2	4191.02 PGM Internship	U 1
Current issues faced by immigrant workers in agriculture and the cultural, historical and legal context affecting work relations with their American supervisors.		Real world job experience at golf courses, clubs, or resorts. Students are mentored by the on-site PGA professional and must complete specified written Work Experience Activities. Must be enrolled while on internship.	
Au Sem; even years. Prereq: Not open to students with credit for 380.		Prereq: 2250 (250), and enrollment in Pre-Professional or Professional Golf Management majors. Repeatable to a maximum of 5 completions.	
3401.01 Greenhouse Industry	U 1	4193 Individual Studies	U 1 - 3
Two day course comprised of visits to several greenhouse and allied businesses.		Special studies in the field of horticulture and crop science.	
Prereq: Permission of instructor. Not open to students with credit for 401.01. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.		Prereq: GPA 2.50 or above, and permission of instructor. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.	
3401.02 Environmental Horticulture Organizations	U 1	4194 Group Studies	U 1 - 3
Two-day course comprised of visits to several "green industry" locations including nurseries, landscape design, public and private gardens and allied businesses.		Special group studies in the area of horticulture and crop science.	
Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.		Repeatable to a maximum of 6 cr hrs or 6 completions.	
3410 Sustainable Landscape Maintenance Practices	U 2	4325 Plant Genetics	U 3
An integrated approach to the sustainable maintenance of constructed landscapes - residential, commercial, and institutional, combining research based knowledge with field experience in maintenance practices.		A study of plant transmission and functional genetics and their role in crop improvement.	
Prereq: 2201 or 2202.		Prereq: 2200 (200) or 2201 or 2202 or 300 or MolGen 3300 (PlntBio 300); and Chem 1110 (101) or 1210 (121); and Biology 1101 (101) or 1113 (113), or MolGen 1101 (PlntBio 101). Not open to students with credit for 325.	
3420 Seed Science	U 3	4501.01 PGM Advanced Professional Experience I	U 1
A study of the physiological processes of seed formation, dormancy, and germination; the production and marketing of seed in commerce.		Enhances professional development for students intending a career within the golf industry. While on this experience, students will complete specified Advanced Professional Experience activities. Students will learn about career opportunities and better understand the types of tasks/challenges associated with a career in professional golf management.	
Prereq: 2201 or 2202, or permission of instructor. Not open to students with credit for 420.		Prereq: 2250, and PGM major or pre-major. Concur: 4191.02. This course is graded S/U.	
3438 Theme and Specialty Gardens	U 2	4501.02 PGM Advanced Professional Experience II	U 1
Study of the principles and techniques of theme and specialty gardening.		Enhances professional development for students intending a career within the golf industry. While on this experience, students will complete specified Advanced Professional Experience activities. Students will learn about career opportunities and better understand the types of tasks/challenges associated with a career in professional golf management.	
Prereq: 2201. Not open to students with credit for 438.		Prereq: 4501.01, and PGM major or pre-major. Concur: 4191.02. This course is graded S/U.	
3470 Principles of Turfgrass Selection and Management	U 3	4501.03 PGM Advanced Professional Experience III	U 1
Adaptation, identification, uses, growth characteristics, growth responses, and fundamental principles essential to the production of quality turf.		Enhance professional development for students intending a career within the golf industry. While on this experience, students will complete specified Advanced Professional Experience activities. Students will learn about career opportunities and better understand the types of tasks/challenges associated with a career in professional golf management.	
Prereq: 2201. Not open to students with credit for 470.		Prereq: 4501.02, and PGM major or pre-major. Concur: 4191.02. This course is graded S/U.	
3475 Turf Management for Golf Course Managers	U 3	4501.04 PGM Advanced Professional Experience IV	U 1
Survey of the culture and management of golf turfs specifically aimed at course setup and daily maintenance practices.		Enhances professional development for students intending a career within the golf industry. While on this experience, students will complete specified Advanced Professional Experience activities. Students will learn about career opportunities and better understand the types of tasks/challenges associated with a career in professional golf management.	
3488.01 Professional Development	U 1	Prereq: 4501.03, and PGM major or pre-major. Concur: 4191.02. This course is graded S/U.	
Participation in structured co-curricular programs leading to professional development.		4501.05 PGM Advanced Professional Experience V	U 1
Prereq: GPA 2.00 or above, and permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.		Enhances professional development for students intending a career within the golf industry. While on this experience, students will complete specified Advanced Professional Experience activities. Students will learn about career opportunities and better understand the types of tasks/challenges associated with a career in professional golf management.	
3488.02 PGM Player Development	U 1	Prereq: 4501.04, and PGM major or pre-major. Concur: 4191.02. This course is graded S/U.	
Focus on assisting students who have not passed the PGA of America's Playing Ability Test. Encompasses golf skills evaluation, mental approach, development of a corrective action plan and re-evaluation of skills progress.		4503 PGM Advanced Teaching and Swing Analysis	U 2
Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.		This course encompasses learning objectives and work experience-related materials pertaining to Checkpoints 2 and 3 of the PGA of America's PGA/PGM Program including swing concepts, analysis of the golf swing, and philosophy of teaching.	
3501 PGM Basic Golf Operations	U 2	Prereq: 2250, 3501, and 3502.	
This course encompasses learning objectives and materials pertaining to Checkpoint 1 of the PGA of America's PGA/PGM program including tournament operations, golf car fleet management, rules of golf and introduction to teaching.		4504 Advanced Golf and Turf Operations	U 3
Sp Sem. Prereq: 2250. Not open to students with credit for 350.01, 350.02, or 350.03.		Use a golf facility as a "model system" to apply a case study approach to demonstrate that golf professionals and turfgrass specialists must work together to meet the needs of their customers and supervisors. Golf professionals and turfgrass specialists have the common need to prepare integrated business plans. Capstone.	
3502 PGM Club Design, Performance, Fitting and Repair	U 2	Prereq: 3470 or 3475. Not open to students with credit for 350.04 or 350.07.	
This course encompasses learning objectives and work experience-related materials pertaining to Checkpoints 1 and 2 of the PGA of America's PGA/PGM Program including golf club design, performance, fitting and repair.			
Sp Sem. Prereq: 2250 and 3501. Not open to students with credit for 350.01 and 350.05.			

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4560	Creating a Virtual Perspective	U	3	
	Examine a variety of open source and Web 2.0 communication technologies applicable to turf, landscape and other professionals. Identify issues related to authoring, delivering, and integrating applications into a professional social network.			
	Prereq: Not open to students with credit for 560.			
4570	Turfgrass Management and Science	U	3	
	A study of cultural practices and environmental factors affecting the maintenance of quality turf.			
	Prereq: 3470, and Biology 1101 or 1113. Not open to students with credit for 570.			
4600	Capstone	U	2	
	Examination of issues related to economic viability, social and ethical responsibility, environmental compatibility, and production efficiency of HCS-related enterprises to prepare students for transition from university to workplace.			
	Prereq: Sr standing in Sustainable Plant System or Professional Golf Management major. Not open to students with credit for 600 or 601.			
4999	Research with Distinction	U	1 - 3	
	Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.			
	Prereq: CPHR 3.00 or above, and GPA 3.00 or above in major, and permission of project supervisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.			
4999H	Honors Research with Distinction	U	1 - 3	
	Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.			
	Prereq: Honors standing, and FAES 4590.01H (590H), and GPA 3.4 or above. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.			
5097.03	Chile Study Abroad Pre Departure	U G	1	
	This is a pre departure program for students enrolled in Agriculture & Agro Ecosystems in Chile.			
5100	Advanced Cropping Systems	U G	3	
	Students will examine issues related to economic and environmental sustainability, legal and ethical responsibility, and production efficiency to help students transition to being professionals. Students will apply their knowledge regarding row and forage crop management to address production issues. Students will practice communication through enhanced analytical thinking experiences.			
	Prereq: 3100, or Grad standing.			
5193	Individual Studies	U G	1 - 3	
	Special studies in the field of horticulture and crop science.			
	Prereq: CPHR 2.50 or above, and permission of instructor. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.			
5194	Group Studies	U G	1 - 3	
	Special group studies in the area of horticulture and crop science.			
5200	Advanced Horticultural Principles and Practices	U G	3	
	This course will prepare students for transition from student to professional by advancing their mastery of edible and ornamental horticultural crop principles and practices as they are driven by the interaction of cultivar genetics, plant physiology, and environmental influences; and by exploring issues of economic and environmental sustainability and production efficiencies on a global scale.			
	Prereq: 3200, or Grad standing.			
5306	Sustainable Vegetable Production Practicum: Planning, Growing and Marketing	U G	3	
	Provides students with an introduction to small-scale vegetable farm planning and management through consideration of plant growth and production, farm design, farm management and operations, and produce marketing.			
	Prereq: 5450 (450), or permission of instructor. Not open to students with credit for 613.			
5401	Sustainable Landscape Design II	U G	4	
	Students synthesize the knowledge and skills learned in previous course work to achieve a command of the skills necessary to practice Sustainable Landscape Design. The development of a design package (construction documents, bidding, cost estimating, project management, marketing) is the focus. Professionalism and communication skills to work with clients and other professionals are stressed.			
	Prereq: 2201, 2202, and 2401. Prereq or concur: 2340.01 or 2340.02.			
5411	Domestication and Utilization of Agronomic Crops	U G	3	
	To gain a fundamental understanding of the historical development and scientific principles underlying crop domestication and utilization, and how they impact current and future development and utilization of selected grain, oilseed, and fiber crops.			
	Prereq: 2201, 2201E, 2202, or 2202E, and Biology 1101, 1113, or 1113H. Not open to students with credit for 411.			
5412	Agroecology of Grasslands and Prairies	U G	3	
	Growth characteristics, adaptation and utilization of grassland species for hay/silage, grazing, fuel and conservation.			
	Prereq: 2201, 2201E, 2202, or 2202E, and Biology 1101, 1113, or 1113H; or Grad standing. Not open to students with credit for 412.			
5422	Biology and Management of Weeds and Invasive Plants	U G	3	
	A study of weeds and invasive plant biology and ecology, and methods of vegetation management. Enrollment in the Masters in Plant Health Management Program required for online offering only.			
	Prereq: 3100, 3200, or 3470, and Biology 1101, 1113, or 1113H; or Grad standing. Not open to students with credit for 422 or 610.			
5450	Vegetable Crop Production and Physiology	U G	3	
	A physiological and ecological study of the principal vegetable crop species grown for processing and fresh market use. The impacts of integrated crop management and other production systems on vegetable yields and quality are also considered.			
	Prereq: 2200 (200), 2201, 2202, 300 or MolGen 3300 (PlntBio 300); and Chem 1110 (101) or 1210 (121); and Biology 1101 (101), 1113 (113), or MolGen 1101 (PlntBio 101); or Grad standing. Not open to students with credit for 450 or 605.			
5460	Fruit Crop Physiology and Production	U G	3	
	Sustainable fruit crop production principles/practices and their physiological bases as affected by environmental and economic factors.			
	Prereq: 2201 or 2202, and Biology 1101 or 1113; or Grad standing. Not open to students with credit for 460.			
5521	Advanced Greenhouse Production	U G	3	
	Advanced considerations in the manipulation of the greenhouse environment to control the growth and development of greenhouse crops.			
	Prereq: 3521, Chem 1110 or 1210, and Biology 1101 or 1113; or Grad standing. Not open to students with credit for 521.			
5601	Digital Portfolio Development	U G	1	
	This course will provide an overview of digital portfolio development of prior learning and/or ongoing learning. Portfolios may be used to assess and compare learning with contemporary job requirements. Students will learn to select, categorize, and document their achievements and accomplishments for review and assessment, relative to career readiness skills and co-curricular competencies.			
5602	The Ecology of Agriculture	U G	3	
	Examines the key ecological and evolutionary processes at work in agricultural systems and the ways those processes interact with human systems.			
	Prereq: ENR 3000 (300.01), and 6 sem cr hrs of HCS taken at the 3000-level or above; or Grad standing. Not open to students with credit for 602.			
5621	Physiology of Cultivated Plants	U G	3	
	A study of basic physiological processes in plants and how they impact crop production and productivity. Online section requires enrollment in the Masters of Plant Health Management Program.			
	Prereq: 3310, and Biology 1113 or 1113H, and Chem 1110 or 1210; or Grad standing. Not open to students with credit for 621.			
5622	Biochemical Processes in Cultivated Plants	U G	3	
	A study of basic biochemical processes in crop plants and how they impact production, productivity, and quality.			
	Prereq: Biology 1113 or 1113H, and Chem 2310 or 2510, and HCS 3310; or Grad standing.			
5630	Seed Production: Domestic & International Perspectives	U G	2	
	The study of seed production principles (from flowering/fruit set through seed quality assessment and seedling establishment) from a physiological and ecological perspective.			
	Prereq: 3420, or Grad standing. Not open to students with credit for 630.			
5670	Golf Courses and the Environment	U G	2	
	Principles and practices of golf course design for sustainability.			
	Prereq: 2270 (270), or Grad standing. Not open to students with credit for 670.			
5730	Seed Ecology and Physiology	U G	2	
	Study of the principles of seed ecology and the role of seed banks and seedling regeneration in natural and managed plant communities.			
	Prereq: 3420, or Grad standing. Not open to students with credit for 730.			
5797.01	Artistry, History and Horticulture of European Gardens	U G	3	
	Study of European gardens known for artistry, historical importance, and/or horticultural practices.			
	Prereq: 5097.01, and 2.5 GPA or above. Repeatable to a maximum of 6 cr hrs.			
5797.03	Agriculture and Agro-Ecosystems in Chile	U G	3	
	An eight-day study tour of agriculture industries and agroecosystems in Chile.			
	Prereq: GPA 2.5 or above. Concur: 5097.03.			
5797.04	Professional Golf Management: History of Golf Outside the United States - Scotland	U G	3	
	Provides undergraduate Professional Golf Management students the opportunity to learn about the rich history of golf in other countries and how the business and game of golf differs globally.			
	Prereq: 5097.04, and 2.5 GPA or above. Not open to students with credit for 697.06.			

5798 Agroecology Field Studies	U G 3
This course is a 2-week field study of New Mexico to demonstrate the factors that shape agriculture in the semi-arid southwestern United States and be exposed to Navajo and Pueblo agriculture. Students will learn about the biophysical, climatic, economic, and cultural drivers of agriculture by reading and discussing literature and by visiting farms, research centers, processing plants, and more.	
Prereq: 2201 or 2201E, and permission of instructor.	
5887 Introduction to experimental design	U G 3
Introduction to experimental design, including selection and layout of plots, data analysis software, and data interpretation.	
Prereq: 2260 or Stat 1450, or equiv; or Grad standing.	
5890 Turfgrass Seminar	U G 1
Academic and industry experts present information and lead discussion on current issues facing the turfgrass industry.	
Prereq: Enrollment in Sustainable Plant Systems major, and Jr or Sr standing; or Grad standing.	
7001 Graduate Student Professional Development	G 1
Introduction to the procedures, resources, and requirements needed to succeed as graduate Horticulture and Crop Science students and in subsequent career(s).	
This course is graded S/U.	
7003.02 Agricultural Genomics: Principles and Applications	G 2
Reviews the principles of most genetic technologies, new developments in the field and emphasizes their application in agriculture.	
Prereq: MolGen 4500 or Biochem 5613 (613), or permission of instructor. Concur: PlntPth 7003.01. Not open to students with credit for 7003 (703) or PlntPth 7003 (703).	
7193 Individual Studies	G 1 - 3
Selected topics not included in regular HCS courses.	
Prereq: Permission of instructor. This course is graded S/U.	
7194 Group Studies	G 1 - 3
Special group studies in the area of horticulture and crop science.	
7625 Plant Breeding and Biotechnology	G 3
Introduction to the principles of plant breeding and biotechnology.	
Prereq: Undergraduate plant breeding or genetics course, or permission of instructor. Not open to students with credit for 625.	
7761 Crop Secondary Products for Survival, Health and Wellbeing	G 3
The synthesis, metabolism and agricultural, industrial, medicinal or aesthetic uses of crop secondary products affecting our daily lives.	
Prereq: Chem 1110 (102).	
7806 Methods in Horticulture and Crop Science	G 1 - 2
Instruction of a specific method used in the Horticulture and Crop Science professions.	
Repeatable to a maximum of 12 cr hrs or 6 completions.	
7821 Environmental Physiology of Managed Plant Systems	G 3
An advanced study of the interaction of cultivated plants with their environment.	
Prereq: 5621. Not open to students with credit for 821.	
7830 Phytochemicals in Human Health: Crops to the Clinic	G 3
Covers the function and control of phytochemicals in plants, the function of phytochemicals in human health, delivery of phytochemicals through foods in the diet, strategies when designing studies examining foods for health, and policy and sustainability considerations.	
Prereq: Biochem 4511 (511) or 5613 (613), or equiv; or permission of instructor. Not open to students with credit for FdScTe 7810. Cross-listed in FdScTe, HumnNtr, BSGP, and PubHEpi.	
7890 Seminar on HCS Topics	G 1
Research seminar on varying topics in HCS.	
Repeatable to a maximum of 4 cr hrs. This course is graded S/U.	
8825 Advanced Plant Breeding	G 3
Advanced Plant Breeding examines theory and methods for improving plant varieties including genetics, breeding designs, tools and techniques, and marker-assisted selection.	
Sp Sem. Prereq: 7625 (625). Not open to students with credit for 825.	
8830 Current Topics in Horticulture and Crop Science	G 1
Readings from the current literature will be examined in detail for both technical and conceptual content.	
Repeatable to a maximum of 10 cr hrs.	
8887 Experimental Design	G 4
Intended to develop student's ability to use appropriate and robust statistical techniques of experimental design in research, with an emphasis on approaches for biological and agricultural sciences.	
Prereq: 5887, PlntPth 5550, Stat 5301, MolGen 5650, or AnimSci 7000; or permission of instructor.	
8999 Research	G 1 - 12
Research for thesis or dissertation.	
Repeatable. This course is graded S/U.	

Human Development And Family Science

2189 Introduction to Field Work	U 4
Participation in community agency, learning roles and responsibilities, with increasing involvement in program development and evaluation. Department application must be filed one semester in advance.	
Prereq: 2210, and CPHR 2.5 or above, and permission of instructor. Not open to students with credit for 589.01 and 589.02.	
2200 Family Development	U 3
Dynamics of family interaction over the life cycle; emphasis on developmental, social, and cultural influences on the family experience.	
Prereq: Not open to students with credit for 360. GE soc sci indivs and groups course.	
2210 Helping Skills in Context	U 4
The study of various strategies and techniques used to assess and work with individuals and families in the context of family service organizations.	
Prereq: 2200. Not open to students with credit for 466 and 468.	
2239 Land-Grant Universities: Mission and Leadership	U 3
This course provides students with the opportunity to learn about land-grant institutions and their place in the American higher education system, including evolving nature of the land-grant mission in 21st century America, as well as how higher education leaders are reconfiguring our nation's preeminent public institutions to meet the needs of the communities they were designed to serve.	
Cross-listed in ESHESA.	
2350 Parenting	U 3
Identification and examination of the theoretical approaches applicable to child rearing in families; emphasis on developing practical skills for working with parents and children.	
Prereq: Not open to students with credit for 665. GE soc sci indivs and groups course.	
2367 American Family Issues	U 3
Development of writing, presentation, and oral discussion skills while critically examining family and related community issues.	
Prereq: English 1110.01 (110.01), 1110.02 (110.02), or 1110.03 (110.03). Not open to students with credit for 367. GE writing and comm course: level 2.	
2400 Life Span Human Development	U 3
Survey of human development across the life span directed toward an applied understanding of the individual and forces that shape development.	
Prereq: Not open to students with credit for 364. This course is available for EM credit. GE soc sci indivs and groups course.	
2410 Child Development	U 3
Study of the nature, nurture, and development of children from conception through the childhood years.	
Prereq: Not open to students with credit for 361. GE soc sci indivs and groups course.	
2420 Adolescence and Emerging Adult Development	U 3
Current theory and research on individual development during the adolescent and emerging adulthood years.	
Prereq: Not open to students with credit for 362.	
2800 Promoting Early Language and Literacy in ECD&E	U 3
This ECDE course focuses on theories of language development, the sequence of speech and language development and differentiating between normal and atypical speech. Emphasis will also be placed on the teacher's role in facilitating communication and literacy skills, on planning and implementing appropriate language and literacy activities, and on selecting & using literature to enhance language.	
2810 Developing Age Appropriate Curriculum for Infants and Toddlers	U 3
This course is an overview of care giving for infants and toddlers in group settings. Developmentally appropriate programming for infants and toddlers is emphasized across developmental areas through routines, environment, and experiences with a focus on language and brain development. The role of staff and parent relationships is explored as is state rules for licensed child care centers.	
2900 Methods in Human Ecology Research	U 3
Introduction to the fundamental elements of human ecology research, using qualitative, quantitative, and historical perspectives.	
Prereq: Not open to students with credit for 334.	
3189.01 Field Work with Targeted Populations: Children	U 1 - 3
Field Work for students who are interested in working with children.	
Prereq: 2410, and Jr or Sr standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.	
3189.02 Field Work with Targeted Populations: Adolescents	U 1 - 3
Field Work for students who are interested in working with adolescents.	
Prereq: 2420, and Jr or Sr standing. Repeatable to a maximum of 6 cr hrs or 6 completions.	
3189.03 Field Work with Targeted Populations: Older Adults	U 1 - 3
Field Work for students who are interested in working with older adults.	
Prereq: 5430, and Jr or Sr standing. Repeatable to a maximum of 6 cr hrs or 6 completions.	

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3189.04 Field Work with Targeted Populations: Couple and Family Therapy Clinic U 1 - 3

Field Work for students who are interested in working in the Couple and Family Therapy Clinic.
Prereq: 5200, and Jr or Sr standing. Repeatable to a maximum of 5 cr hrs or 5 completions.

3189.05 Field Work with Targeted Populations: At-Risk Populations U 1 - 3

Field Work for students who are interested in working with at-risk populations.
Prereq: 2410, 2420, or 5430, and Jr or Sr standing. Repeatable to a maximum of 6 cr hrs or 6 completions.

3189.06 Field Work with Targeted Populations: Children with Disabilities U 1 - 3

Field work for students who are interested in working with children with disabilities; promoting independent and productive inclusion in home, school, and community environments.
Prereq: 2410, and Jr or Sr standing. Not open to students with credit for 689.02. Repeatable to a maximum of 6 cr hrs or 6 completions.

3193 Practicum in Human Development and Family Science Research U 1 - 3

Provides students with opportunity to work individually with faculty member on research project.
Arr. Prereq: 2900 or equiv, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

3200 Foundations of Family Science U 3

Examination of theories and perspectives of family development with an emphasis on the family systems perspective and application.
Prereq: 2200. Not open to students with credit for 560.

3440 Human Sexuality U 3

Examination of the intellectual, physical, social, and emotional aspects of human sexuality.
Prereq: Not open to students with credit for 670.02. GE soc sci indivs and groups course.

3450 Managing and Supporting Behavior in Social Contexts U 3

Examines strategies to help promote adaptive behavior in home, school, and community contexts. Students will learn strategies for managing and preventing behavioral problems and develop an understanding of behavior management practices.
Prereq: Soph, Jr, or Sr standing; or permission of instructor. Not open to students with credit for 461.

3620 Intervention and Prevention Practices: Development and Evaluation U 3

Students will identify practices that have empirical support and focus on development, integration, and evaluation of intervention and prevention practices applied to teaching important skills that improve functional outcomes in everyday contexts.
Prereq: Soph, Jr, or Sr standing, or permission of instructor. Not open to students with credit for 464.

3800 Professional Development U 1

The professional: performance, role in society, position securement, involvement in organizations, and continuing development. Students are encouraged to take this course early in the major.
Prereq: Not open to students with credit for 595.

4194 Group Studies U 1 - 3

Selected topics in human development and family science.
Prereq: Jr or Sr standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.

4370 Families and Stress U 3

Examination of normative and developmental stressors and crises that impact on the family; implications for practitioners drawn from conceptual frameworks and recent research.
Prereq: 2200, or permission of instructor. Not open to students with credit for 660.

4998 Undergraduate Research in Human Development and Family Science U 1 - 10

Undergraduate research in areas of study related to the unit and the instructor's research agenda.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

4998H Undergraduate Honors Research in Human Development and Family Science U 1 - 10

Undergraduate honors research in areas of study related to the unit and the instructor's research agenda.
Prereq: Honors standing, Jr or Sr standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

5200 Foundations of Couple and Family Therapy U G 3

Overview and development of key theories of couple and family therapy.
Prereq: Jr, Sr, or Grad standing, or by petition. Not open to students with credit for 650.

5340 Intimate Relationships U G 3

An examination of the individual, couple, and contextual factors that affect the development and maintenance of intimate relationships across the life course.
Prereq: 2400, or Grad standing. Not open to students with credit for 670.03.

5350 Families with Adolescents U G 3

This is an upper level advanced course that is designed to provide students with an understanding of theory, research, and application efforts targeting families with adolescents.
Prereq: 2200 or 2400, or equiv; or Grad standing.

5410 Infant-Toddler Development: Current Research and Controversies U G 3

Infant and toddler development during the first four years of life with special consideration of bases of support for provision of effective care.
Prereq: 2410 or equiv, and Jr or Sr standing.

5430 Adult Development and Aging U G 3

Examination of change and continuity in human development from young adulthood to very old age using a psycho-social-biological perspective.
Prereq: 2400 or 2420, or equiv, and Jr or Sr standing. Not open to students with credit for 670.01.

5440 Human Sexuality in Context U G 3

Examination of issues in human sexuality across the lifespan in the context of peoples' lived experiences within families, communities, and society, using film, texts, and narratives.
Prereq: Jr standing or above, and 2400 or 2200 or equiv, or Sexuality Studies major or minor. Not open to students with credit for 370.

5890 Special Topics in Family Development U G 3

Review, interpretation, and evaluation of current literature and research in family development.
Prereq: 2400 or 2200, or equiv, and Jr or Sr standing. Not open to students with credit for 695.02.

5891 Special Topics in Child Development U G 3

Review, interpretation, and evaluation of current literature and research in child development.
Elaboration of existing material and the addition of opportunities for application in the field.
Prereq: 2400 or 2410 or equiv, and Jr or Sr standing. Not open to students with credit for 695.01.

5892 Special Topics in Adolescent Development U G 3

Review, interpretation, and evaluation of current literature and research in adolescent development.
Prereq: 2400 or 2420, or equiv, and Jr or Sr standing.

5893 Special Topics in Adult Development and Aging U G 3

Review, interpretation, and evaluation of current literature and research in adult development and aging.
Prereq: 2400 or 5430, or equiv, and Jr or Sr standing.

6780 Research Seminar G 1

Expose graduate students to a wide variety of research projects and findings in the field of Human Development and Family Science through weekly seminars presented by various faculty within and outside the department.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

6782 Research Methods G 3

Overview of research methods and related conceptual issues relevant to study of human development and family science; creative approaches to research problems.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 760.

6890 Proseminar G 1

This 1-credit course exposes graduate students to the field of Human Development and Family Science and the current research, teaching and outreach interests of the existing HDFS faculty.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 701.03. This course is progress graded (S/U).

6892 Professional Development Seminar G 1 - 3

Aids students in professional development. Topics include: setting goals in graduate school, creating a CV, choosing research projects, submission of articles for publication, grant writing, career planning, navigating the job market.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is progress graded (S/U).

7189 Field Experience G 1 - 3

Supervised practice in couple and family assessment and intervention in an agency setting.
Prereq: Grad standing, or permissions of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is progress graded (S/U).

7350 Adolescence and Emerging Adulthood G 3

Theoretical perspectives and empirical studies on adolescent development and emerging adulthood are covered. Focus will be on the reasons for this emerging life stage, recent research, contextual factors, and historical context/cohort differences.
Prereq: Grad standing, or permission of instructor.

7500 Families, Systems, and Health G 3

A study of illness and its impact on individuals, couples, and family systems across the lifespan. Covered are common illnesses (especially chronic), family systems interventions, challenges, and collaborative models of care. A collaborative approach to interdisciplinary healthcare practice, intervention design, and research will be discussed, applied, and reinforced.
Prereq: Grad standing, or permission of instructor.

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7570 Obesity, A Multidisciplinary Foundation

G 2

This course examines the context, causes, and consequences of obesity in the United States today by examining trends in obesity and a description of the scope of the problem. Next, by examining the physiological, psychological, sociological and economic factors that contribute to the obesity problem. Finally by describing adverse health outcomes associated with obesity. Cross-listed in PubHHBP.

7765 Advanced Child Development

G 3

Growth and development of children with emphasis on maturation patterns and individual differences.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 765.

7770 Professional and Ethical Issues in Couple and Family Therapy

G 3

A preclinical introduction to the central issues and resources in professional development, including personal growth, legal responsibilities, regulation, ethics, and special areas of practice.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 770.

7780 Research Methods in Couple and Family Therapy

G 3

Explore major design, measurement and analysis strategies for conducting and understanding couple and family therapy research.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 881.

7999 Thesis Research

G 1 - 12

Research for masters thesis.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is progress graded (S/U).

8189 Practicum in Couple and Family Therapy

G 1 - 3

Supervised practice in couple and family assessment and intervention in the department's couple and family therapy clinic.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 27 cr hrs or 27 completions. This course is progress graded (S/U).

8189.01 Practicum in Research

G 1 - 3

Participation in the research process under the supervision of a faculty member.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 851. This course is progress graded (S/U).

8189.02 Practicum in Teaching

G 1 - 3

Supervised college teaching experience for department graduate students.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is progress graded (S/U).

8190 The PhD Job Market

G 2

This 2-credit course examines issues related to the job market for Ph.D.s. Both academic and nonacademic jobs are discussed. Application, interviewing, and negotiating techniques are described.

Prereq: Doctoral standing. This course is graded S/U.

8193 Independent Studies for Doctoral Students

G 1 - 3

Problems in various phases of human development chosen for individual study.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is progress graded (S/U).

8403 Individuation

G 3

Designed as an advanced adolescent development course. The major focus is on the individuation process discussed from several perspectives.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 840.03.

8404 Adolescence: Risk in Context

G 3

Examines the ways that social relationships and contexts (family, peers, community, etc) shape development, specifically risk and problem behavior during the adolescent period.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 840.04.

8820 Theoretical Perspectives on the Family

G 3

Provides an overview of theoretical perspectives used to study families and family change topics in HDFS from the perspective of psychology, sociology, economics, demography, anthropology, and others.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 764 or 820.

8824 General Systems Theory

G 3

Doctoral level course designed to provide students with an introduction to foundational ideas concerning general systems theory as applied to children, family, schools, and communities.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 824.

8825 Theories of Human Development

G 3

Examination of foundational theories of human development with an emphasis on evaluating, comparing and contrasting the major theories.

Prereq: Doc standing, or permission of instructor. Not open to students with credit for 825.

8860 Seminar in Couple and Family Therapy

G 3

Seminar in Couple and Family Therapy. Topics to be announced.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8862 Seminar in Human Development and Family Science

G 3

Seminar in Human Development and Family Science, topics to be announced.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

8870 Family Systems Assessment

G 3

A survey of issues and techniques used in assessment of families for purposes of research and practice, including issues and design for family therapy research.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 870.

8874 Family Therapy Theory I

G 3

An emphasis on the theoretical orientation of the structural, strategic, MRI, and Milan approaches to family therapy.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 874.

8875 Family Therapy Theory II

G 3

An emphasis on the theoretical orientation of the intergenerational, behavioral, experimental and solution-focused approaches to family therapy.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 875.

8876 Marital Therapy Theory

G 3

An emphasis on theoretical approaches, intervention techniques, and basic issues or problems of application for couple therapy.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 876.

8878 Supervision of Couple and Family Therapy

G 3

Preparation of Couple and Family Therapy doctoral students to provide supervision of therapy.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 878.

8999 Dissertation Research

G 1 - 12

Research for thesis or dissertation purposes only.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

Human Nutrition

2193 Individual Studies

U 1 - 6

Problems in various phases of human nutrition chosen for intermediate level undergraduate individual study.

Prereq: Written permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

2194 Group Studies

U 1 - 3

Selected topics for intermediate undergraduate study in human nutrition.

Repeatable to a maximum of 6 cr hrs or 6 completions.

2210 Science of Human Nutrition

U 3

Basic principles of biological science, emphasizing the interaction between nutrients and physiological (including cellular) processes.

Prereq: Not open to students with credit for 210. GE nat sci bio course.

2295 Careers in Nutrition

U 1

Exploration of careers in nutrition/dietetics through self-assessment, employer presentations; professional readings; internship and job search strategies.

Prereq: Not open to students with credit for 295.

2310 Fundamentals of Nutrition

U 3

Nutrient and energy needs of the human biological system throughout the life cycle including energy balance with consideration of socio-psychological factors.

Prereq: Biology 1113 (113), or 1101 (101), or equiv; and Chem 1210, or 1610, or 1910H; and Chem 1220, or 1620, or 1920H, or 1250. Not open to students with credit for 310. This course is available for EM credit.

2314 Fundamentals of Food

U 3

Scientific principles of food components, of major food groups and their interactions, with reference to nutritional properties, food preparation, food chemistry, optimum quality, microbiological safety and preservation of nutrients.

Prereq: 2210 (210) or 2310 (310), and premajor, major, or minor in the following: Human Nutrition, Animal Science, Medical Dietetics, or Family and Consumer Science Education. Not open to students with credit for 314.

2450 Foodservice Sanitation and Safety

U 1

Organization of a facility to ensure safe and sanitary foodservice program. Includes National Restaurant Association's ServSafe Sanitation Certification program and Ohio Department of Health Certification in Food Protection.

Prereq: Not open to students with credit for 450.

3313 Food in Different Cultures

U 2

Food practices of selected peoples of the world with consideration of the existing social, cultural, and economic conditions. Class content through lecture, discussion, and guest speakers.

Prereq: 2310 (310); or 2210 (210), and major in FCSEd. Not open to students with credit for 313.

248 Human Nutrition

3415 Global Nutrition Issues	U 2	5612 Medical Nutrition Therapy II	U G 3
Topics in global nutrition with critical appraisal of research basis and alternative viewpoints. Current issues include research and evaluation, major global nutrition issues (obesity, food insecurity, malnutrition, bioengineering, vegetarianism). Prereq: 2310 (310); or AnimSci 3130 (330); or HumnNtr 2210 (210) and major in FCSEd. Not open to students with credit for 415.		The role of medical nutrition therapy in the treatment of established disease with emphasis on the biochemical and physiological rationale for dietary modifications. Prereq: 5611 (611), and Human Nutrition or Medical Dietetics major; or Grad standing. Not open to students with credit for 612.	
3506 Nutrition Across the Life Span	U 3	5622 Medical Nutrition Therapy II Lab	U G 1
Nutrition issues during major life stages from pre-pregnancy through the dying elderly. Prereq: 2310 (310) or AnimSci 3130. Not open to students with credit for 506.		Laboratory and practical application of the nutrition care process through assessment, management and treatment of various disease states. Concr: 5612, and enrollment in DPD.	
3704 Public Health Nutrition	U 2	5705 Nutrition and Physical Performance	U G 2
Review of evidence base for public health nutrition including examination of food assistance and education programs; Description of public health nutrition efforts; Investigation of practices aimed at empowering the public to choose healthy foods. Prereq: 2310 (310). Not open to students with credit for 704.		Integration of nutrition, exercise physiology, and biochemistry. Use of nutrients as fuel, interaction between nutrients and exercise performance, assessment of energy expenditure and nutritional status, interactions among diet, exercise and health. Prereq: 4609 (610). Not open to students with credit for 705.	
3780H Research Methods in Nutrition	U 1	7193 Individual Studies	G 1 - 6
Development of hypotheses and choosing appropriate methods to test them. Work with advisor to write Honors research proposal. Prereq: Honors standing.		Problems in various phases of human nutrition chosen for intermediate level graduate individual study. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.	
3998 Undergraduate Research in Human Nutrition	U ½ - 6	7194 Group Studies	G 1 - 3
Undergraduate research in areas of study related to human nutrition and the instructor's research agenda. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 12 completions. This course is graded S/U.		Selected topics for intermediate graduate study in human nutrition. Prereq: Open to students who meet department's stated prerequisites. Repeatable to a maximum of 6 cr hrs or 6 completions.	
3998H Undergraduate Honors Research in Human Nutrition	U ½ - 6	7620 Food and Nutritional Toxicology	G 2
Undergraduate honors research in areas of study related to human nutrition and the instructor's research agenda. Prereq: Honors standing and written permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		Overview of absorption, metabolism and excretion of xenobiotics, allergenic and toxic constituents, role of diet in mutagenesis and carcinogenesis, food processing induced toxins and procedures, laws and regulation of safety assessment of foods. Prereq: 4609; and 7761 and 7762, or AnimSci 7761 and 7762, or FdScTe 7761 and 7762; and 6 cr hrs at the grad level in Physiol; or permission of instructor. Not open to students with credit for 830.09, AnimSci 830.09, FdScTe 7620, or 830.09.	
4189 Professional Experience in Human Nutrition	U 1 - 3	7761 Macronutrient Metabolism	G 4
Supervised pre-planned employment experience with approved biomedical or medical professional. Prereq: Jr standing and HumnNtr major. Not open to students with credit for 589. This course is graded S/U.		In-depth treatment of digestion, absorption, transport, and utilization of dietary carbohydrates and fat for energy production and fat deposition in humans and other higher animals. Prereq: 2310 (310) or AnimSci 3130 (330), and Biochem 4511 (511). Not open to students with credit for 761 and 762, AnimSci 761 and 762, or FdScTe 761 and 762. Cross-listed in AnimSci.	
4193 Individual Studies	U 1 - 6	7762 Vitamin and Mineral Metabolism	G 4
Problems in various phases of human nutrition chosen for advanced undergraduate individual study. Prereq: Permission of instructor. Not open to students with 10 qtr cr hrs for HumnNtr 593. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		Biochemical functions, absorptions, transport, utilization, interrelationships and nutritional requirements of selective vitamins and minerals in higher vertebrates and humans. Prereq: Credit in Biochem and Physiol. Not open to students with credit for AnimSci, FdScTe, or HumnNtr 763. Cross-listed in AnimSci.	
4194 Group Studies	U 1 - 3	7789 Nutrition Research Design	G 1
Selected topics for advanced undergraduate study in human nutrition. Repeatable to a maximum of 6 cr hrs or 6 completions.		Aspects of research design, including both ethical considerations as well as how to select appropriate experimental models. Prereq: Grad standing. Cross-listed in AnimSci.	
4504 Nutrition Education and Behavior Change	U 3	7804 Advanced Community and International Nutrition	G 3
Contemporary theories and models of health education and behavior change related to individuals, groups and communities and applied to field of nutrition. Review of effective communication techniques with individuals and groups. Prereq: 2310 (310), and HumnNtr major or minor, or MedDiet major. Not open to students with credit for 504.		Current issues in community and international nutrition. Prereq: 3704 (704), or permission of instructor. Not open to students with credit for 804.	
4596 Dietetics Seminar	U 1	7806 Advanced Nutrition Education	G 3
Advanced professional development issues in dietetics: Leadership, marketing, research, continuing education, licensure, and preparation for dietetic internship/graduate education. Prereq: 2295 (295) and Sr standing in Dietetics. Not open to students with credit for 596.		Discussion of principles of nutrition education and behavior change target audience will be discussed. Course will focus on concepts and methods from related disciplines such as behavioral medicine, psychology, sociology, and education. Prereq: Not open to students with credit for 806.	
4609 Macronutrients	U 3	7830 Phytochemicals in Human Health: Crops to the Clinic	G 3
Application of biochemistry and physiology to the regulation of carbohydrate, lipid, and protein during fed, fasted and exercise states; nutrient digestion, absorption, metabolism, excretion, requirements, and interactions. Prereq: C- or above in 2310 (310) or AnimSci 3130 (330); and Biochem 2210 (211 and 212) and Chem 231 (2310), or Biochem 4511 (511), or MolBloc 3311 (311) and 3312 (312); and EEOB 2520 (232), or Physio 3101 (311) and 3102 (312), or 3200.		Covers the function and control of phytochemicals in plants, the function of phytochemicals in human health, delivery of phytochemicals through foods in the diet, strategies when designing studies examining foods for health, and policy and sustainability considerations. Prereq: Biochem 4511 (511) or 5613 (613), or equiv; or permission of instructor. Not open to students with credit for FdScTe 7810. Cross-listed in FdScTe, HCS, BSGP, and PubHEpi.	
4610 Micronutrients and Phytochemicals	U 3	7899 Oral Research Communication	G 1
Application of biochemistry and physiology to understanding micronutrients, including structure, digestion, absorption, metabolism, excretion, requirements, sources, and interactions of vitamins, phytochemicals, water, electrolytes, and minerals. Prereq: 4609 (610) and C- or higher in 2310; and HumnNtr, MedDiet, AnimSci, or HNPES major.		Critical analysis of the scientific literature and demonstration of effective oral presentation skills tailored to the target audience with use of information technologies as needed. Prereq: Grad standing. Cross-listed in AnimSci.	
5611 Medical Nutrition Therapy I	U G 3	7999 Research: Thesis	G ½ - 6
The role of medical nutrition therapy in the treatment of established chronic diseases with emphasis on the biochemical and physiological rationale for dietary modifications. Prereq: 4609 (610), and Human Nutrition or Medical Dietetics major; or Grad standing. Not open to students with credit for 611.		Research for masters thesis. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.	
8193 Individual Studies	G 1 - 6		
		Problems in various phases of human nutrition chosen for advanced level graduate individual study. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.	

8194 Group Studies	G	1 - 3
Selected topics for advanced graduate study in human nutrition. Repeatable to a maximum of 6 cr hrs or 6 completions.		
8801 Macronutrients- Lipids and Energy Balance G 3		
Discussion of lipids as storage molecules used for energy and to modulate metabolism and influence energy balance conditions such as obesity, cachexia, weight loss and weight gain. Prereq: 7761 (761), AnimSci 7761 (761), or FdScTe 761. Not open to students with credit for 830.01, AnimSci 830.01, or FdScTe 830.01. Cross-listed in AnimSci.		
8802 Advanced Micronutrient Metabolism G 3		
Comparative study of the regulation of micronutrient status and its influence on physiological and molecular events including nuclear receptor activity and transcription. Prereq: 7761 (761), AnimSci 7761 (761), or FdScTe 761. Not open to students with credit for 830.02, or AnimSci 830.02, or FdScTe 830.02. Cross-listed in AnimSci.		
8833 Diet, Nutrition and Cancer	G	3
Epidemiological, clinical and basic perspective of how diet and nutrition practices. Prereq: 7761 (761), AnimSci 7761 (761), or FdScTe 761. Not open to students with credit for 830.12, AnimSci 830.12, or FdScTe 830.12. Cross-listed in AnimSci.		
8834 Comprehensive Approach to Food Safety	G	2
A comprehensive overview of food safety challenges and solutions as experienced through the food chain from farm to consumers. Demonstration of food safety system from cellular aspects though public policy. Prereq: Microb 509, or equiv. Not open to students with credit for 830.10, AnimSci 830.10, or FdScTe 830.10. Cross-listed in AnimSci.		
8835 Grantsmanship	G	1
Capstone course for the OSUN PhD program will train students on grantsmanship skills. Prereq: Grad standing. Cross-listed in AnimSci.		
8836 Advanced Nutritional Genomics	G	3
The primary goal of the course is to stimulate critical thinking and discussion among graduate students about current research findings in the areas of genomics, proteomics and metabolomics as they apply to studies in the nutritional sciences. Prereq: 7761 or AnimSci or FdScTe 7761, and HumnNtr or AnimSci 7762. Cross-listed in AnimSci.		
8888 OSUN Research Seminar	G	1
Recent advances in nutrition science are presented by locally, nationally and internationally recognized scientists. Prereq: Grad standing. Repeatable to a maximum of 5 cr hrs. This course is graded S/U. Cross-listed in AnimSci.		
8998 Graduate Research	G	1 - 15
Graduate research in areas of study related to human nutrition and the instructor's research agenda. Prereq: Permission of instructor. Repeatable. This course is graded S/U.		
8999 Research: Dissertation	G	1 - 15
Research for dissertation. Prereq: Permission of instructor. Repeatable. This course is graded S/U.		

Hungarian

1103 Intermediate Hungarian I	U	4
Continued development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: Hungn 1102 (Hungarin 102.01). Not open to students with credit for Hungarin 104. This course is available for EM credit. GE for lang course.		

Industrial and Systems Engineering

2010 Systems Modeling	U	3
Mathematical modeling of mechanical, social, and biological systems, with applications; use of modeling software. Prereq: CSE 1222 and Differential Equations. Concur: Linear Algebra, and Soph standing in Engineering or NMS.		
2040 Engineering Economics	U	2
Economic analysis of engineering project alternatives. Cash flow modeling; time value of money; techniques for comparing projects; influence of taxes, depreciation, and inflation. Prereq: Soph standing in Engineering. Not open to students with credit for 504 or IndEng 504.		
2194 Group Studies in Integrated Systems Engineering	U	1 - 4
Special topics of general interest to students enrolled in Integrated Systems Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.		
2400 Design of Work: Methods and Measurement	U	2
Introduces students to tools and techniques used in work methods design and productivity improvement, including operation analysis, motion study, value engineering, predetermined time systems, time study, line balancing. Prereq: Soph standing, and enrollment in Industrial and Systems Engineering major or Engineering Physics major. Not open to students with credit for 540 or IndEng 531.		

2500 Introduction to Manufacturing Engineering	U	3
Fundamentals of common manufacturing processes, materials and tooling; relationship of product design to required processing sequences and steps, attributes of manufacturing systems. Prereq: Not open to students with credit for 350 or IndEng 311.		
3194 Group Studies in Integrated Systems Engineering	U	1 - 4
Special topics of general interest to students enrolled in Integrated Systems Engineering and related fields. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.		
3200 Linear and Integer Programming	U	3
Introduction to formulation, solution and analysis of continuous and discrete linear models to optimize the design of production and service systems and other engineering applications. Prereq: Math 2153 or 2173, and 2568 or 2174; and CSE 1222 or 1223 or Engr 1281.01H or 1281.02H, and major in ISE or major in Eng Phys. Not open to students with credit for 520 or IndEng 521.		
3210 Nonlinear and Dynamic Optimization	U	3
Introduction to nonlinear, dynamic, and network optimization models and solution techniques. Prereq: 3200, 520, Math 2174 (568 or 571), MechEng 2850, or IndEng 522, and major in ISE, or permission of instructor. Not open to students with credit for 521 or IndEng 523.		
3230 Systems Modeling and Optimization for Analytics	U	3
Introduction to formulation, solution and analysis of continuous and discrete linear and nonlinear models to optimize systems using data-driven techniques. Prereq: Math 1152, 2568, and CSE 2231. Not open to ISE majors or to students with credit for 3200 or 3210.		
3400 Production Planning and Facilities Design	U	4
Introduction to production systems control: deterministic and stochastic, static and dynamic, single-stage and multi-stage inventory control, MRP systems, just-in-time, scheduling, Facility and machine location models, storage models (warehouse, ASRS), simple layout models, systematic layout planning with applications in manufacturing, health care, service and logistics. Prereq: Math 2153 or 2173, and 2568 or 2174; and Stat 3470, and ISE 3200, and major in ISE or major in Eng. Phys. Not open to students with credit for 541, IndEng 532, 533, or 542.		
3500 Process Engineering for Machining Operations	U	3
Introduction to the machines, tooling, set-ups, processing sequences, processing times, metrology, and safety issues for traditional and selected non-traditional metal cutting operations. Prereq: 2500, and enrollment in ISE major.		
3600 Workplace Ergonomics: Analysis and Design of Physical Work Systems	U	3
Explores physiological and biomechanical principles used to analyze and design work systems (tasks, tools, equipment) so people can perform their jobs more effectively and safely. Prereq: 2040 and Stat 3470, and Jr or Sr standing in ISE; CPHR 3.0 or above for students not enrolled in ISE major. Prereq or concur: 2400 for students majoring in ISE. Not open to students with credit for 560 or IndEng 503.		
3700 Cognitive Engineering Systems	U	3
Human-centered design of cognitive tools and work systems. Human-computer interaction; decision making; human error; computer-supported distributed work; design of decision support systems. Prereq: Jr standing, and admission to the ISE or Eng. Phys. major. Not open to students with credit for 670, IndEng 570, or 670.		
3800 Engineering Project Management	U	3
Project management for engineers, including project life cycle, planning, optimization models, management of change and scheduling and budgeting. Prereq: Jr standing, and major in ISE or Engineering Physics; or permission of ISE Academic Advisor. Not open to students with credit for 681.		
4100 Stochastic Modeling and Simulation	U	4
Methods for stochastic process and discrete event simulation modeling and system design and decision-making using simulation tools. Prereq: Stat 3470 or equiv, and enrollment in Industrial & Systems Engineering major; or permission of instructor. Not open to students with credit for 501.		
4120 Quality and Reliability Engineering	U	3
Techniques associated with the Total Quality Management and Lean Six Sigma as well as the foundations of reliability engineering. Prereq: Stat 3470, and enrollment in ISE major or EngPhys major. Not open to students with credit for 510 and 610, or IndEng 509 or 610.		
4193 Individual Studies in Integrated Systems Engineering	U	1 - 4
Special topics of general interest to undergraduate students in Integrated Systems Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.		
4194 Group Studies in Integrated Systems Engineering	U	1 - 4
Special topics of general interest to undergraduate students in Integrated Systems Engineering and related fields. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.		

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4500	Manufacturing Process Engineering	U	3		5230	Decomposition Techniques in Mathematical Programming	U G	3
A thorough quantitative understanding of contemporary manufacturing processes; exposure to laboratory exercises and computer simulations in major manufacturing processes; design for manufacturing and assembly.				This course provides a description of decomposition techniques to solve large-scale optimization problems with decomposable structure. Partitioning techniques considered include Dantzig-Wolfe, Benders and Lagrangian decompositions. The considered techniques are illustrated using examples and case studies from the energy sector.				
Prereq:				Prereq: 3200 and 3210, or Grad standing.				
Option 1: MechEng 3670. Prereq or concur: MechEng 4510, Or								
Option 2: MechEng 2020 or 2040, and WeldEng 4201 or MechEng 3500; or permission of instructor.								
Not open to students with credit for 350 or IndEng 311.								
4891	Colloquia, Workshops, and Seminars in Integrated Systems Engineering	U	1 - 4		5350	Probabilistic Models and Methods in Operations Research	U G	3
Special colloquia, workshops or seminars of general interest to students in Integrated Systems Engineering and related fields.				Introduces probabilistic modeling techniques in operations research like Markov Chains, Poisson Processes, and Markov Decision Processes. Modeling, theory, and applications are discussed.				
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.				Prereq: 3200 and Stat 3470; or permission of instructor. Not open to students with credit for 7300.				
4900	Capstone Design	U	4		5410	Quantitative Models in Production and Distribution Logistics	U G	3
In-depth systems design project for industrial engineering. Exploration and selection of design alternatives; justification, recommendation, and presentation of problems and potential solutions.				Introduction to quantitative models in supply chain management and logistics including: location analysis, inventory management, vehicle routing, coordination, risk pooling, reverse logistics.				
Prereq: Completion of required ISE core curriculum, with up to one such course taken concurrently, and enrollment in ISE major. Not open to students with credit for 680.02.				Prereq: 3210 or 3300. Not open to students with credit for 742.				
4998	Undergraduate Research in Integrated Systems Engineering	U	1 - 4		5430	Warehouse and Facility Design	U G	3
Opportunity for undergraduates to conduct research in Integrated Systems Engineering.				Broad exposure to facility planning and design, and distribution center layout and operations. Topics include current material handling equipment technology, and warehouse systems and operations.				
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.				Prereq: Calculus, Linear Algebra, and Linear Programming. Not open to students with credit for 742.				
4999	Undergraduate Research for Thesis	U	1 - 4		5450	Industrial Ecology	U G	3
Opportunity for undergraduates to conduct research in Integrated Systems Engineering.				Introduction to the status of resources, principles and methods of life cycle assessment, environmentally conscious product and facility design, production and recycling methods.				
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.				Prereq: Sr or Grad standing in Engineering. Not open to students with credit for 784.				
4999H	Honors Undergraduate Research for Thesis	U	1 - 4		5463	Manufacturing of Energy Systems	U G	3
Opportunity for Honors undergraduates to conduct research in Integrated Systems Engineering.				Teaches the design, manufacture and integration of conventional and renewable energy systems including their environmental impact.				
Prereq: Honors standing in the College of Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.				Prereq: Sr standing in ISE, or Grad standing; or permission of instructor. Not open to students with credit for 5194 (Au12, Shivpuri).				
5043	Power Systems - Analysis and Operation	U G	3		5501	Fundamentals of Solid State Processing	U G	3
Power systems analysis and operations, including steady-state analysis, state estimation, and economic operation.				Application of basic principles of heat transfer, tribology, and elastic/plastic deformation for metallic solids to manufacturing processes.				
Prereq: 3040, and ECE major; or Sr standing and ISE major; and Math 2568; or Grad standing in engineering or biological sciences or math and physical sciences. Cross-listed in ECE.				Prereq: MechEng 2010, 2020, and 2040, or equiv, and Sr or Grad standing in Engineering. This course is available for EM credit.				
5110	Design of Engineering Experiments	U G	3		5502	Molten Metal Processing	U G	3
Plan and analyze experiments relevant to system design. Also, students will learn regression and alternative approaches for on-hand data analysis.				An advanced class in application of thermodynamics, kinetics, and macro-transport phenomena to primary metals production, refining, and solidification processing.				
Prereq: 4210; or Stat 3470 or equiv, and Grad standing. Not open to students with credit for 610 or IndEng 610.				Prereq: MatScEn 2251 or 3151; or Grad standing; or permission of instructor. Not open to students with credit for 651.02, MatScEn 667, or 668. Cross-listed in MatScEn 5451.				
5193	Individual Studies in Integrated Systems Engineering	U G	1 - 4		5503	Manufacturing Processes and Simulation	U G	3
Special topics of general interest to graduate students in Integrated Systems Engineering.				An introduction to theory and simulation of different manufacturing processes. Learn to apply numerical methods to manufacturing processes such as machining, hot embossing, and injection molding.				
Prereq: Enrollment in department BS/MS program, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.				Prereq: Jr or Grad standing in Engineering, or permission of instructor.				
5194	Group Studies in Integrated Systems Engineering	U G	1 - 4		5520	Industrial Automation	U G	1½
Special topics of general interest to undergraduate and graduate students in Integrated Systems Engineering and related fields.				Industrial Automation teaches the design, application, and computer logic and control of various mechanical, pneumatic, electrical, and electronic sensors and actuator devices for industrial systems.				
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.				Prereq: 2500, or Grad standing in Engineering.				
5200	Linear Optimization	U G	3		5521	Advanced Sheet Forming Laboratory	U G	1½
Introduction to the linear optimization and applications. Topics include model formulation, solution methods, polyhedral and duality theory, sensitivity analysis, and software usage.				Computational and experimental laboratory based hands-on introduction to the fundamentals and applications of sheet forming processes. Students who took a version of this course offered as a group studies may not receive credit for 5521.				
Prereq: Math 2174, 2415, 2568, or 4568, and permission of instructor; or Grad standing. Not open to students with credit for 5200 (720).				Prereq: 2500 or permission of instructor.				
5201	Theory of Linear Optimization	U G	3		5525	Industrial Robotics	U G	1½
Introduction to linear optimization with an emphasis on theory. Topics include model formulation, solution methods, polyhedral and duality theory, sensitivity analysis, and software.				Operating principles, selection, use of proximity and optical sensors; switches, relays, actuators; electric motors and controls; electro-pneumatic devices; integration of these for automated industrial systems.				
Prereq: Math 2174, 2415, 2568, or 4568, and permission of instructor; or Grad standing. Not open to students with credit for 5200 (720).				Prereq: 2500, or Grad standing in Engineering.				
5220	Complementarity Theory & Applications	U G	3		5530	Fundamentals of Tool Engineering	U G	3
Describes complementarity models and their solution techniques. It includes optimality conditions, equilibria, mathematical programs with equilibrium constraints and equilibrium problems with equilibrium constraints.				Basic form, function, mechanical elements, common materials, thermal considerations and economic analysis in the design of workholding fixtures and jigs, dies/molds, and cutting tools.				
Prereq: 3200, or permission of instructor.				Prereq: MechEng 2010 and 2020, or 2040, or Grad standing. Not open to students with credit for 650.02, IndEng 622, or MechEng 622.				
5225	Electricity Market Analytics	U G	3		5540	Polymer Processing Fundamentals	U G	3
This course provides an analysis of decision-making tools for electricity markets, addressing the perspectives of the market operator, producers, retailers, and consumers.				Applies fundamentals of transport phenomena and polymer constitutive equations to the analysis of manufacturing of plastic components.				
Prereq: 3200, or permission of instructor.				Prereq: 550, 617, or MechEng 2020, or equiv, and MechEng 3670, or equiv. Prereq or concur: MechEng 4510, or equiv. Not open to students with credit for 618 or 751.02.				

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5550 Principles of Precision Engineering	U G 3	5720 Human Systems Integration	U G 3
Principles of precision engineering with focus on design and performance of precision machinery, machine tool metrology and precision manufacturing processes.		Concepts and methods for considering the human as part of the design and operation of any system, especially large scale systems and enterprises.	
Prereq: MechEng 2010 and MechEng 2020; or MechEng 2040. Not open to students with credit for 752.01.		Prereq: Sr or Grad standing, or permission of instructor.	
5555 Manufacturing Processes and Machine Tools	U G 3	5730 Information Analysis and Synthesis	U G 3
Focuses on machining processes: cutting, grinding and milling. It includes descriptive and analytical treatment of machining processes, equipment, computer control and integrated systems.		Professional information analysis in engineering, intelligence/security, business, and health care that identifies the factors that make the analytical process shallow or rigorous.	
Prereq: Jr, Sr, or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 651.01 or IndEng 611.		Prereq: Sr or Grad standing, or permission of instructor.	
5600 Principles of Occupational Biomechanics and Ergonomics	U G 3	5740 Cognitive Engineering Systems: Human-Centered Automation	U G 3
Introduction to anatomical, physiological, and biomechanical bases of physical ergonomics; workplace assessment techniques; biomechanical modeling; bioinstrumentation; preparation for advanced topics and research.		Provides key concepts to make autonomous systems, robots, and artificially intelligent systems team players with responsible people.	
Prereq: Grad standing. Not open to students with credit for 660.		Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 771.01. Repeatable to a maximum of 8 cr hrs or 4 completions.	
5610 Ergonomics in the Product Design Process	U G 3	5760 Visual Analytics and Sensemaking	U G 3
Provides students with an understanding of where and how ergonomic principles are incorporated into the design and evaluation of consumer products.		Students learn about information visualization techniques that help people analyze massive amounts of digital data to combat overload and aid sensemaking with applications in retail and financial decision making, logistics, information systems, manufacturing, healthcare, energy and smart grids, cybersecurity and social networks.	
Prereq: 3600 and 3700 or equiv. Not open to students with credit for 769.		Prereq: Jr, Sr or Grad standing. Not open to students with credit for 773.01.	
5620 Risk Assessment Tools for Occupational Musculoskeletal Disorders	U G 3	5770 Cognitive Engineering Systems: Design and Evaluation	U G 3
Provides students with an understanding and working knowledge of tools used to assess risk of occupationally related musculoskeletal disorders.		Evaluation of product and system design to assess usefulness and usability; advanced design concepts for consumer products, web sites, educational tools and information retrieval systems.	
Prereq: 3600 or equiv. Not open to students with credit for 761.01 or 761.02.		Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 772.	
5640 Occupational Safety: Analysis and Design of Work Environments	U G 3	5800 Advanced Project Management	U G 3
Introduction to workplace hazards and controls for engineers and others who design workplaces, equipment, tools, and processes.		Advanced project management engineering techniques to implement and optimize project-driven change; communication and leadership strategies critical to successful optimization of a firm's processes and systems.	
Prereq: Enrolled in a major in the College of Engineering, or Construction Systems Management; or Grad standing. Not open to students with credit for 664 or 665, or to pre-majors.		Prereq: 3800, or permission of instructor.	
5682.01 Fundamentals of Product Design Engineering	U G 3	5810 Lean Sigma Foundations	U G 4
Lecture covering the fundamentals of the product design process, from concept creation to final implementation, including product architecture and design for manufacture and assembly. An optional, corresponding project-based lab course (ME/ISE 5683) offers practical application of this material. Only open to students enrolled in majors in the College of Engineering.		Comprehensive foundation course for the Black Belt Level 'Certificate' (not certification) that is required to complete Green and Black Belt Certification.	
Prereq: Jr, Sr, or Grad standing in the College of Engineering, or permission of instructor. Not open to students with credit for 5682 (682), 5682.02, 5560, IndEng 682, MechEng 5682 (682), or 5682.02. Cross-listed in MechEng.		Prereq: Stat 3470, and permission of instructor. Not open to students with credit for 685.	
5682.02 Product Design Engineering for Entrepreneurs	U G 3	5811 Lean Sigma Certification Project (Part I)	U G 3
Fundamentals of the product design process, from concept creation to final implementation, including product architecture and design for manufacture and assembly.		Focuses on industry sponsored LeanSigma DMAIC Certification Projects. Project Selection, Definition and Measure are covered in this course.	
Prereq: Not open to students with credit for 5682, 5682.01, MechEng 5682, 5682.01, or 5194 (Abell - AU15, SP16, AU16). Cross-listed in MechEng.		Prereq: 5810, and Sr standing, and enrollment in Industrial and Systems Engineering, and permission of instructor. Not open to students with credit for 680.01.	
5683 Fundamentals of Product Design Engineering Laboratory	U G 1	5812 LeanSigma Certification Project II	U G 3
This course is an optional laboratory to go with ISE/ME5682.01. This project-based lab gives students hands-on experience with the product design process introduced in lecture. Students will work with real people to identify opportunities to create innovative, product-based solutions. Students will go through the design process from conducting user research all the way to constructing prototypes.		Focuses on industry sponsored Lean Sigma DMAIC Certification Projects. Improve and Control are the phases covered in this course.	
Prereq or concur: 5682.01 or MechEng 5682.01, and enrollment in a major within the College of Engineering. Not open to students with credit for 5682, 5682.02, MechEng 5682, or 5682.02. Cross-listed in MechEng.		Prereq: 5810 and 5811, and permission of instructor. Not open to students with credit for 680.02.	
5700 Introduction to Cognitive Systems Engineering	U G 3	5815 Integrated LeanSigma Fundamentals	U G 3
Human-centered design of consumer products, web sites and complex sociotechnical systems. Topics include human-computer interaction and the design of decision support and distributed work systems.		Fundamental overview of Integrated LeanSigma with focus on a case study based understanding of the DMAIC methodology. Yellow Belt level certificate upon completion of exam.	
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 3700 (770).		Prereq: Stat 3470 (427 and 428), or Grad standing, or permission of instructor. Not open to students with credit for 5810.	
5705 Cognitive Engineering Systems: Distributed and Cooperative Work	U G 3	5820 Systems Thinking in Engineering and Design	U G 3
Provides key concepts for the design and assessment of computer supported collaborative and distributed work systems.		Concepts and heuristics in systems thinking and complex systems analysis and how these concepts apply to engineering and design projects.	
Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 771. Repeatable to a maximum of 8 cr hrs or 4 completions.		Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 688.	
5710 Behind Human Error: Safety and Complex Systems	U G 3	5830 Decision Analysis	U G 3
Covers how complex systems fail and the human contribution to success and failure by studying actual disasters in diverse fields.		Introduction to decision analysis, modern utility theory and risk modeling, Bayesian inference, value of information, multiattribute decision modeling, and application to engineering decisions under uncertainty.	
Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 875.		Prereq: 3210 and Stat 3470. Not open to students with credit for 684.	
		5870 Resilience Engineering	U G 3
		Provides a comprehensive treatment of Resilience Engineering tools to measure, manage, and design complex systems to be resilient in the face of surprising disrupting events.	
		Prereq: Sr or Grad standing, or permission of instructor.	
		6193 Individual Studies in Integrated Systems Engineering	G 1 - 4
		Special topics of general interest to graduate students in Integrated Systems Engineering.	
		Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.	
		6194 Group Studies in Integrated Systems Engineering	G 1 - 4
		Special topics of general interest to graduate students in Integrated Systems Engineering and related fields.	
		Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.	

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6220 Network Optimization	G	3	7420 Sequencing and Scheduling	G	3
Introduction to continuous and discrete network optimization. Topics include shortest path, maximum flow minimum cut, minimum cost network flows algorithms, network design, and algorithms. Prereq: Calculus, Linear Algebra, Introductory Computer Programming, and Linear Programming.			Survey of sequencing/scheduling problems encountered in management systems. Emphasis is given to those problems and solution methods found in the literature. Prereq: 5200, Calculus, and Linear Algebra. Not open to students with credit for 841.		
6290 Stochastic Optimization	G	3	7510 Computational Analysis of Manufacturing Processes	G	3
Examines the modeling, theory, and solution algorithms for stochastic optimization problems. Prereq: 5200, and Stat 3470 or ISE 7300; or permission of instructor.			This course is designed to teach graduate students about constitutive models used for numerical simulation of the inelastic behavior of bulk and sheet materials. Prereq: Grad standing in ISE, or MechEng, or MatScEn; and knowledge using commercial math software (Matlab, etc.), or ability to write simple codes with Fortran, C++, etc., and knowledge using commercial FEA code (e.g. ABAQUS, LS-Dyna, PAM STAMP, ANSYS, DEFORM, etc.). Prereq or concur: MechEng 7100, or equiv.		
6300 Simulation for System Analytics and Decision-Making	G	3	7610 Advanced Topics in Biomechanics and Musculoskeletal Disorders: Spine Biomechanics	G	3
Students learn how to collect data and perform input analysis, model systems using discrete-event simulation, and inform system design decision-making through defensible output analysis. Prereq: Stat 3470 or equiv, and Calculus-based Probability. Not open to students with credit for 730.			Advanced readings course of papers on occupational epidemiology, physiology, work-related musculoskeletal disorders, pathophysiology, biomechanics, anthropometry, electromyography, imaging, and modeling as related to spine biomechanics. Prereq: 5600 (660), or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
6801 Project Management for Engineers	G	3	7615 Biomechanics Research Practicum: Experience in Spine Biomechanics	G	3
Provides foundational and advanced project management education in an interactive online learning environment as part of the Master of Global Engineering Leadership program. Prereq: Enrollment in Master of Global Engineering Leadership program, and permission of instructor. Not open to students with credit for 3800.			Builds upon theoretical information developed in ISE 7610. Provides link between theory and laboratory measurement in assessment of biomechanical issues for occupational low back disorder. Prereq: 7610 or 7620 or 7630 or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
6840 Market Engineering and Applications	G	4	7620 Advanced Topics in Biomechanics and Musculoskeletal Disorders: Upper Extremity Biomechanics	G	3
Introduction to market engineering concepts and applications to contemporary market design problems such as resource allocation, information aggregation, and decentralized control. Prereq: 3210 or equiv, and Econ 2001.01 or equiv, and Stat 3470 or equiv, and graduate standing; or permission of department. Not open to students with credit for 5840, or 603, or 703.			Advanced readings course of papers on occupational epidemiology, physiology, work-related musculoskeletal disorders, pathophysiology, biomechanics, anthropometry, electromyography, imaging, and modeling as related to upper extremity biomechanics. Prereq: 5600 (660), or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
6999 Research for Thesis in Industrial & Systems Engineering	G	1 - 15	7625 Biomechanics Research Practicum: Experience in Upper Extremity Biomechanics	G	3
Research for the Masters Thesis in Industrial and Systems Engineering. Prereq: Grad standing in the M.S. program in Industrial and Systems Engineering. Repeatable to a maximum of 50 cr hrs or 10 completions. This course is graded S/U.			Builds upon theoretical information developed in ISE 7620. Provides link between theory and laboratory measurement in assessment of biomechanical issues for occupational upper extremity disorders. Prereq: 7610 or 7620 or 7630 or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
7100 Advanced Simulation	G	3	7630 Advanced Topics in Biomechanics and Musculoskeletal Disorders: Contemporary Issues	G	3
Advanced course on modeling, programming, and statistical analysis techniques in discrete event simulation. Topics include random variable generation, input/output analysis, variance reduction and simulation optimization. Prereq: Stat 3278 or equiv. Not open to students with credit for 701.			Advanced seminar on contemporary topics in ergonomics; topics include, but are not limited to work-related musculoskeletal disorders, back biomechanics, upper extremity biomechanics, anthropometry, electromyography. Prereq: 6660 (660), or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
7120 Advanced Quality Control and Improvement	G	3	7700 Cognitive Systems Engineering: Advanced Topics	G	3
Students learn techniques associated with the Total Quality Management and Lean Sigma and additional advanced quality technology. These techniques facilitate measurements of system quality, data-driven system design, and system control/standardization. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4120 (510), 610, IndEng 509, or 610.			Seminar on emerging themes about human-machine systems and how these relate to current societal issues. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.		
7193 Individual Studies in Integrated Systems Engineering	G	1 - 4	7710 Cognitive Systems Engineering Research Practicum	G	3
Individual studies for advanced graduate students in Integrated Systems Engineering and related fields. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.			Builds upon theoretical information developed in advanced cognitive systems engineering courses. Provides link between theory and application of cognitive systems engineering principles. Repeatable to a maximum of 9 cr hrs.		
7194 Group Studies in Integrated Systems Engineering	G	1 - 4	7720 Cognitive Systems Engineering: Models and Methods	G	3
Special topics of general interest to advanced graduate students in Integrated Systems Engineering and related fields. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.			Covers models of human-machine cognitive systems and methods to study of human-machine cognitive systems in complex work settings. Prereq: Grad standing. Repeatable to a maximum of 9 cr hrs.		
7200 Advanced Nonlinear Optimization	G	3	7881 Interdepartmental Seminar	G	1 - 4
Unconstrained and constrained nonlinear optimization, covering applications, theory dealing with convexity, optimality conditions, duality, and algorithms. Prereq: Calculus, linear algebra, computer programming, and an introductory optimization course, or permission of instructor. Not open to students with credit for both 820 and 821.			Seminars of general interest to students in Integrated Systems Engineering and related fields. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.		
7210 Large Scale Optimization	G	3	7882 Interdepartmental Seminar for MBLE program	G	1 - 4
Introduction to decomposition-coordination methods. Topics include cutting-stock problems, column and row generation methods, and stochastic programming. Prereq: 5200. Not open to students with credit for 823.			Seminars of general interest to students in the MBLE program, Integrated Systems Engineering, and related fields. Prereq: Enrollment in the MBLE program, or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.		
7230 Integer Optimization	G	3	7883 Department Seminar	G	1
Introduction to the theory and solution methods for optimization problems which contain integer variables. Topics include polyhedral theory, cutting planes, branch-and-bound. Prereq: Calculus, Linear Algebra, and Linear Programming. Not open to students with credit for 822. Prereq: 5200. Not open to students with credit for 881.			Provided graduate students with a broad exposure to current research within the various branches of Industrial Engineering, including operations research, human factors/ergonomics, and manufacturing. Prereq: Grad standing in ISE. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.		
7250 Operations Research Models and Methods	G	3			
Examines many basic operations research models from network theory, integer programming, queuing theory, inventory theory and nonlinear programming. Algorithmic concepts are discussed. Prereq: 5200. Not open to students with credit for 881.					
7300 Stochastic Processes	G	3			
Stochastic processes commonly used in Industrial and Systems Engineering, including renewal processes and continuous time Markov chains. Prereq: 6300 or equiv. Not open to students with credit for 830.					

7891 Colloquia, Workshops, and Seminars in Integrated Systems Engineering G 1 - 4

Special colloquia, workshops or seminars of general interest to students in Integrated Systems Engineering and related fields.

Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

8099 Special Topics in Systems Engineering G 1 - 4

Selected topics in systems engineering, of special interest to advanced graduate students in Industrial and Systems Engineering and related fields.

Repeatable to a maximum of 16 cr hrs or 4 completions.

8194 Group Studies in Integrated Systems Engineering G 1 - 4

Special topics of general interest to doctoral students in engineering and related fields.

Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

8299 Special Topics in Optimization G 1 - 4

Selected topics in optimization, of special interest to advanced graduate students in Industrial and Systems Engineering and related fields.

Repeatable to a maximum of 16 cr hrs or 4 completions.

8399 Special Topics in Stochastic Modeling G 1 - 4

Selected topics in stochastic operations research, of special interest to advanced graduate students in Industrial and Systems Engineering and related fields.

Repeatable to a maximum of 16 cr hrs or 4 completions.

8499 Special Topics in Production/Manufacturing Systems G 1 - 4

Selected topics in production and manufacturing systems, of special interest to advanced graduate students in Industrial and Systems Engineering and related fields.

Repeatable to a maximum of 16 cr hrs or 4 completions.

8599 Special Topics in Manufacturing Processes G 1 - 4

Selected topics in manufacturing processes, of special interest to advanced graduate students in Industrial and Systems Engineering and related fields.

Repeatable to a maximum of 16 cr hrs or 4 completions.

8699 Special Topics in Physical Ergonomics G 1 - 4

Selected topics in physical ergonomics, of special interest to advanced graduate students in Industrial and Systems Engineering and related fields.

Repeatable to a maximum of 16 cr hrs or 4 completions.

8850 Practice in Operations Research G 3

Application of Operations Research methods in manufacturing, financial, governmental, educational, and service organizations. Students work on actual problems of a sponsoring organization and present oral and written reports.

Prereq: 881. Not open to students with credit for 885. Repeatable to a maximum of 6 cr hrs.

8899 Special Topics in Integrated Systems G 1 - 4

Selected topics in integrated systems, of special interest to advanced graduate students in Industrial and Systems Engineering and related fields.

Repeatable to a maximum of 16 cr hrs or 4 completions.

8998 Research in Integrated Systems Engineering G 1 - 15

Opportunity to conduct research in Integrated Systems Engineering.

Prereq: Permission of instructor. Repeatable to a maximum of 50 cr hrs or 10 completions. This course is graded S/U.

8999 Research in Integrated Systems Engineering for Dissertation G 1 - 15

Opportunity to conduct dissertation research in Integrated Systems Engineering.

Prereq: Permission of instructor. Repeatable to a maximum of 50 cr hrs or 10 completions. This course is graded S/U.

Internal Medicine

7000 Foundation in Medicine I G 2

Normal human systems and pathophysiology needed for the practice of genetic counseling and working with a healthcare team. This course will cover cell biology, tumor biology, metabolism, musculoskeletal, skin, reproductive, and cardiovascular systems. One hour a week of course will includes a practice or case-based learning approach in alignment with content delivered in IntMed 7020 & 7040. Repeatable to a maximum of 6 cr hrs.

7010 Foundations in Medicine II G 2

Continuation of Fdn Med 1. Normal human systems & pathophysiology for the practice of genetic counseling and working with a healthcare team. Course will cover cell biology, tumor biology, metabolism, musculoskeletal, skin, reproductive and cardiovascular systems. 1 hr/wk of course will include a practice or case-based learning approach which will be in alignment with content delivered in 7030. Prereq: 7000.

7020 Foundations in Genetics I G 3

Covers etiology, natural history, and treatment of genetic disorders needed for the practice of genetic counseling and working with a healthcare team. One hour a week of this course will include a practice based or case-based learning approach which will be in alignment with the content delivered in alignment with the content delivered in IntMed 7000.

7030 Foundations in Genetics II G 3

Continuation of Fdn Gen 1. It will cover etiology, natural history, and treatment of genetic disorders needed for the practice of genetic counseling and working with a healthcare team. One hour a week of this course will include a practice based or case-based learning approach which will be in alignment with the content delivered in alignment with the content delivered in IntMed 7010. Prereq: 7020.

7040 Foundations in Genetic Counseling I G 2

Provides a framework for the evolution and models of genetic counseling practice. An introduction to the fundamental skills, including pedigree taking and analysis, case preparation, obtaining medical and developmental histories, and interview techniques, necessary to practice will be provided.

7050 Foundations in Genetic Counseling II G 2

Continuation of Fdn GenCoun1 provides a framework for the evolution and models of genetic counseling practice. An introduction to the fundamental skills, including pedigree taking and analysis, case preparation, obtaining medical and developmental histories, and interview techniques, necessary to practice will be provided. Prereq: 7040.

7080 Advanced Genetic Counseling I G 3

Explore psychological impact of genetic conditions on the individual & family; review and application of counseling theory & interview techniques in GC practice. Role-play, case discussion, and interactions with consumers of genetic services will be utilized to achieve the course goals and learning objectives.

7090 Advanced Genetic Counseling II G 3

Advanced genetic counseling practice with attention to ethical, legal, social issues. Sessions on professional development topics, such as CV development, employment interview preparation, involvement in professional organizations, and advocacy roles will be addressed. Role -play, case discussion, and interactions with consumers of genetic services will be utilized to achieve goals & objectives. Prereq: 7080.

7100.01 Advanced Clinical Skills: Reproductive Counseling G 1

Students will gain skills needed to provide reproductive genetic counseling. Aspects of discipline explored in the context of case preparation, med and fam history analysis, risk assess and counseling, diff diag, offering appropriate testing options, interpreting results, explaining complex genetics concepts to patients, creating visual aids for counseling, and psychosocial assess. & counseling.

7100.02 Advanced Clinical Skills: Cardiogenetic Counseling G 1

Students will focus on the skills needed to provide adult genetic counseling services (cardiogenetics, neurogenetics, and medical genetics). Aspects of discipline explored in the context of case preparation, med and fam history analysis, risk assess and counseling, diff diag, offering appropriate testing options, interpreting results, explaining complex genetics concepts to patients, etc.

7100.03 Advanced Clinical Skills: Pediatric Counseling G 1

Students will gain skills needed to provide pediatric genetic counseling. Aspects of discipline explored in context of case prep, med and fam hist. analysis, risk assess. and counseling, differential diagnosis, offering appropriate testing options, interpreting results, explaining complex genetics concepts to patients, creating visual aids for counseling, and psychosocial assess. & counseling.

7100.04 Advanced Clinical Skill: Cancer Counseling G 1

Students will gain skills needed to provide cancer genetic counseling. Aspects of discipline explored in context of case prep, med and fam hist. analysis, risk assess. and counseling, differential diagnosis, offering appropriate testing options, interpreting results, explaining complex genetics concepts to patients, creating visual aids for counseling, and psychosocial assess. & counseling.

7189.01 Clinical Practicum I G 3

Students will observe and be introduced to content, skills, and resources utilized in genetic testing laboratories and counseling. Students will be placed in several different genetic testing laboratories and participate in laboratory activities to understand the techniques used in the laboratory setting. Students will participate in a clinical placement in a designated clinic for seven weeks.

This course is graded S/U.

7189.02 Clinical Practicum II G 1½

Students will observe and begin to participate in clinical care. Placements will be 1-2 days per week.

Prereq: 7189.01. This course is graded S/U.

7189.03 Clinical Practicum III G 1½

Students will gain practical experience by providing genetic counseling services in a clinical placement 2-3 days per week. They will apply content learned in other courses and will work to achieve goals based on Practiced Based Competencies determined by the American Board of Genetic Counseling.

This course is graded S/U.

254 Internal Medicine

7189.04	Summer Clinical Practicum IV	G	5	7891.01	Genetic Counseling Seminar Series I	G	1				
Students will gain practical experience by providing genetic counseling services in a five day a week, six week long clinical placement. They will apply content learned in other courses and will work to achieve comprehensive cases towards their ABGC clinical log book.											
	This course is graded S/U.			Discussion of pertinent literature, research problems, and clinical cases in various specialties with an emphasis on the application to genetic counseling research and clinical services. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.							
7189.05	Summer Clinical Practicum II	G	5	7891.02	Genetic Counseling Seminar Series II	G	1				
Students will gain practical experience by providing genetic counseling services in a five day a week, six week long clinical placement. They will apply content learned in other courses and will work to achieve comprehensive cases towards their ABGC clinical log book.											
	This course is graded S/U.			Discussion of pertinent literature, research problems, and clinical cases in various subspecialties with an emphasis on the application to genetic counseling research and clinical services. This course is graded S/U.							
7189.06	Clinical Practicum VI	G	2	7999.01	Thesis I	G	2				
Students will participate in clinical care. Placements will be 2-3 days per week.											
	This course is graded S/U.			Students will implement their IRB-approved graduate level research project developed in IntMed 7998 under the supervision of a thesis advisory committee. Prereq: 7998. This course is graded S/U.							
7189.07	Clinical Practicum VII	G	2	7999.02	Thesis II	G	2				
Students will participate in clinical care. Placements will be 2-3 days per week.											
	This course is graded S/U.			Students will implement IRB approved graduate level research project developed in IntMed 7998. Prereq: 7998. This course is graded S/U.							
7189.08	Clinical Practicum VIII	G	2	7999.03	Thesis III	G	3				
Students will observe and begin to participate in clinical care. Placements will be 2-3 days per week.											
	This course is graded S/U.			Students complete data collection and data analysis. Manuscript will be prepared and reviewed by thesis committee. This course is graded S/U.							
7189.09	Clinical Practicum IX	G	2	7999.04	Thesis IV	G	2				
Students will observe and begin to participate in clinical care. Placements will be 2-3 days per week.											
	This course is graded S/U.			Students complete manuscript for approval by thesis committee and oral defense is scheduled. This course is graded S/U.							
7193.01	Individual Studies: Allergy/Immunology	G	1 - 18	8010	The Business of Genetics	G	1				
All months, 1 or more months to be elected. Research on a minor problem under faculty supervision in the following specialties of medicine: Allergy/Immunology.											
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.			Explore the strategic planning and program development aspects of clinical genetics services and reinforce the communication, administration and analytical skills developed in other areas of coursework. Specific areas: making a business plan, marketing and public relations, government relations, credentialing and licensure will be addressed.							
7193.02	Individual Studies: Cardiology	G	1 - 18	8050	Current Technologies	G	2				
All months, one or more months to be elected. Research on a minor problem under faculty supervision in the following specialties of medicine: Cardiology.											
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.			Through clinical cases, laboratory reports, and in-class exercises, we will investigate the techniques used in clinical diagnostic testing and screening to identify alterations in the genome and the bioinformatics resources used to interpret them.							
7193.04	Individual Studies: Endocrinology	G	1 - 18	8891.01	Seminar Allergy/Immunology	G	1				
All months, 1 or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Endocrinology.											
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.			Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts.							
7193.05	Individual Studies: Gastroenterology	G	1 - 18	Au Sem.	Repeatable.						
All months, 1 or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Gastroenterology.											
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.			8891.07	Seminar: Hematology/Oncology	G	1 - 3				
7193.07	Individual Studies: Hematology	G	1 - 18	Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts.							
All months, one or more months to be elected. Research on a minor problem under faculty supervision in the following specialties of medicine: Hematology.											
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.			8891.09	Seminar: Pulmonary Disease, Allergy, Critical Care and Sleep Medicine	G	1 - 4				
7193.09	Individual Studies: Pulmonary Diseases/Allergy/Critical Care and Sleep Medicine	G	1 - 4	Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts.							
All months, 1 or more months to be elected. Research on a minor problem under faculty supervision in the following specialties of medicine: Pulmonary Diseases(PACCS).											
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.			Prereq:	Permission of instructor. Repeatable. This course is graded S/U.						
7193.10	Individual Studies: Renal Disease	G	1 - 18	8891.10	Seminar: Renal Disease	G	1 - 3				
All months, 1 or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Renal Diseases.											
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.			Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts.							
7193.11	Individual Studies: Rheumatology	G	1 - 18		Prereq:	Permission of instructor. Repeatable. This course is graded S/U.					
All months, one or more months to be elected. Research on a focused problem under faculty supervision in the following specialty of medicine: Rheumatology.											
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.			8999	Research	G	1 - 25				
7300	Public Health Genetics	G	1	Research for thesis or dissertation purposes only.							
Introduction to the complex issues that exist when integrating genetic technology and information into public health. Basic public health concepts, the history of public health genetics and programs will be covered. Examine the integration of genetic information into public health policy, assess public access to genetic services and information and consider ways in which genetic counselors disseminate genetic information and influence health behavior.											
7780	Research Methods	G	2	Repeatable to a maximum of 25 or hrs or 25 completions. This course is graded S/U.							
Develop skills to conduct genetic research studies; including choosing research mentors, writing human research protocols, obtaining informed consent, developing research projects, study design, the scientific method, the basics in obtaining research funding, and presentation of research in the form of abstracts and posters.											

International Studies

2000	Introduction to Africa	U	3
Interdepartmental survey of the land, people, history, politics, social institutions, economic development, literature and the arts.			
	Prereq: Not open to students with credit for 250. GE soc sci orgs and polities and diversity global studies course.		
2050	Introduction to China and Japan	U	3
Multidisciplinary survey of contemporary Asian civilizations: their geographical and racial backgrounds, historical and cultural heritages, social organizations, economic and political problems and international relations.			
	Prereq: Not open to students with credit for 235. GE soc sci orgs and polities and diversity global studies course.		
2100	Introduction to Latin America	U	3
Interdepartmental survey of Latin American societies, anthropology, economics, history, literature, geography, and agriculture.			
	Prereq: Not open to students with credit for 240. GE soc sci human, nat, and econ resources and diversity global studies course.		

2194 Group Studies	U	1 - 3	3450 Human Rights: An Introduction	U	3
Groups of students are offered the opportunity to pursue the interdepartmental study of special topics.					
Prereq: Permission of instructor. Not open to students with 15 qtr cr hrs of 294. Repeatable to a maximum of 9 cr hrs or 9 completions.			Provides an interdisciplinary introduction to the conceptual history as well as the practice of human rights. It traces the evolution of the idea of human rights, its adoption in international and domestic covenants, its role in domestic and international political disputes and its (non-) adoption by governments and civil society. Its essentially contested nature is also discussed.		
2200 Introduction to the Modern Middle East					
Interdepartmental survey of the land, people, history, politics, religions, philosophy, social institutions, economic development, literature, and the arts.	U	3	3661 The City and Culture	U	3
Prereq: Not open to students with credit for 245. GE soc sci orgs and polities and diversity global studies course.			Introduction to the comparative and cross-cultural study of cities, urban culture, and urbanism.		
2250 Russia: From Communism to Capitalism					
Survey of the birth, growth, and death of the communist Soviet Union and of the cultural, social, economic, and political trajectory of its successor, Russia.	U	3	Prereq: One course in CompStd or IntStd, or permission of instructor. Not open to students with credit for 4661 (531) or CompStd 4661 (531) or CompStd 3661. Cross-listed in CompStd.		
Prereq: Not open to students with credit for 230 or 2250H (230H). GE soc sci orgs and polities and diversity global studies course.			3700 Introduction to Intelligence	U	3
2250H Russia: From Communism to Capitalism					
Survey of the birth, growth, and death of the communist Soviet Union, and of the cultural, economic, social, and political trajectory of its successor, Russia.	U	3	Comprehensive introduction to the gathering, analysis, and use of military and political intelligence in a number of countries.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 230H or 2250 (230). GE soc sci orgs and polities and diversity global studies course.			Prereq: Not open to students with credit for 350.		
2251 Introduction to Eastern Europe Since World War II					
Survey of the land, people, history, politics, social institutions, literature, and arts of Eastern Europe since World War II.	U	3	3700H Introduction to Intelligence	U	3
Prereq: Not open to students with credit for 231. GE soc sci orgs and polities and diversity global studies course.			Comprehensive introduction to the gathering, analysis, and use of military and political intelligence in a number of countries.		
2500 Introduction to Development Studies					
Examines theories of political economy and development, as well as the historical geography of global capitalism and contemporary issues in international economic development.	U	3	Prereq: Honors standing, or permission of instructor. Not open to students with credit for 350H.		
Prereq: Not open to students with credit for 215. GE soc sci human, nat, and econ resources and diversity global studies.			3701 Introduction to Homeland Security	U	3
2500H Introduction to Development Studies					
Examines theories of political economy and development, as well as the historical geography of global capitalism and contemporary issues in international economic development.	U	3	Comprehensive overview of U.S. homeland security. Threats from natural disasters, terrorism, and other domestic and external sources will be studied, as will programs and technologies involved in disaster prevention and response.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 215H. GE soc sci human, nat, and econ resources and diversity global studies.			Prereq: Soph standing or higher, or permission of instructor. Not open to students with credit for 300.		
2580 Feast or Famine: the Global Business of Food					
Global and regional trends in food consumption and production are surveyed. Trade, technological change, and other responses to food scarcity are analyzed.	U	3	3702 Herding Cyber Cats: Information Security Management	U	3
Prereq: Not open to students with credit for 2580 (280) or AEDEcon 2580 (280) or 335. GE soc sci human, nat, and econ resources and diversity global studies course. Cross-listed in AEDEcon 2580.			This hands on course will focus on information security governance tools and processes. Students will learn the basic structures and activities used by Information Security professionals to manage information security and cyber risks which threaten us as individuals and organizations.		
2797.02 Study Abroad: Contemporary Uganda					
Enhancing the study of the history, culture, geography and society of Uganda by visiting the country.	U	3	Prereq: Soph standing or above, or permission of instructor.		
GE education abroad course.			3797 Four week Global May Programs	U	1
2800 Introduction to Peace Studies					
The meanings of peace and peacelessness in today's world, varied approaches to peace, contributions of many disciplines and professionals, and the significance of peoples' movements.	U	3	Course deals with global issues from the perspective of both the host country and the US. Repeatable to a maximum of 2 cr hrs.		
Prereq: Not open to students with credit for 201. GE soc sci orgs and polities and diversity global studies course.			3850 Introduction to Globalization	U	3
2800H Introduction to Peace Studies					
The meaning of peace and peacelessness in today's world, varied approaches to peace, contributions of many disciplines and professionals, and the significance of people's movements.	U	3	Analysis of globalization in its various aspects, economic, political, environmental and technological, as well as of its extent and desirability.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 201. GE soc sci orgs and polities and diversity global studies.			Prereq: Soph standing or above, or permission of instructor. Not open to students with credit for 356. GE soc sci indivs and groups and diversity global studies course.		
3350 Introduction to Western Europe					
Presents an introductory overview of the historical background to modern Western Europe. It surveys the development of society & politics, as well as the evolution of art, architecture & music.	U	3	4195 Selected Problems in International Studies	U	3
Prereq: Not open to students with credit for 210. GE historical study and soc sci human, nat, and econ resources and diversity global studies course.			Class discussions, with several guest speakers, informal conferences, and a reading and research program arranged to meet the special needs of those enrolled.		
3400 The Analysis and Display of Data					
Introduction to the analysis of data. Topics include sampling, data collection, probability, inference, random variables, display of data, correlation, and analysis of variance. This course does not count toward a course elective for Econ majors.	U	3	Repeatable to a maximum of 9 cr hrs.		
Prereq: Not open to students with credit for Econ 4400 (444), 5410 (641), 5420 (642), 3400 (443), Stat 1430 (133), 1450 (145), 2450 (245) or AEDEcon 2005 (205). GE data anly course. Cross-listed in Econ.			4200 Living Jerusalem: Ethnography and Bridge Blogging in Disputed Territory	U	3
4242 Incomplete Democracies: the (Un)Rule of Law in Latin America					
In this experimental class, you will meet Israeli and Palestinian scholars and students in video conferences and blogs as you engage in ethnographic, historical, political & cultural analyses of historical and contemporary Jerusalem.			In this experimental class, you will meet Israeli and Palestinian scholars and students in video conferences and blogs as you engage in ethnographic, historical, political & cultural analyses of historical and contemporary Jerusalem.		
Prereq: Soph standing, or permission of instructor.			Prereq: Soph standing, or permission of instructor.		
4250 Comparative Communism: China and Russia					
Seeks to understand the different trajectories of the world's two great communist powers of the 20th century, China and the Soviet Union.			4251 Organized Crime and Corruption in Contemporary Europe	U	3
Prereq: Soph standing, or permission of instructor. Not open to students with credit for 530.			Organized crime and corruption in Post-Communist Europe. Trafficking in drugs, weapons, organs, people and nuclear materials will be explored.		
4320 Energy, the Environment, and the Economy					
Understand the role of energy in the economy and the environment. Explore the economics of clean, renewable energy, and understand the different policies for pollution control.			Prereq: Soph standing or higher, or permission of instructor. Not open to students with credit for 533.		
Prereq: AEDEcon 2001 (200) or Econ 2001 (200). Not open to students with credit for 565, 4320E, or AEDEcon 4320 (565). Cross-listed in AEDEcon.			4320E Energy, the Environment, and the Economy	U	3
4320E Energy, the Environment, and the Economy					
Understand the role of energy in the economy and the environment. Explore the economics of clean, renewable energy, and understand the different policies for pollution control.			Prereq: AEDEcon 2001 (200), or Econ 2001.01, 2001.02 or 2001.03H (200). Not open to students with credit for 4320 (565), AEDEcon 4320 (565) or 4320E. Cross-listed in AEDEcon.		

256 International Studies

4451	The Immigration Controversy through Film	U	3			
	Examines the controversial phenomenon of immigration through the medium of film. Throughout the semester, we will examine the politics of migration through scholarly materials focusing on concepts like globalization, citizenship, and identity in order and delve into the latest policy developments in the realm of immigration regulation and border enforcement.					
4515	Ethnicity, Development, and the State in Sub-Saharan Africa	U	3			
	Takes a theoretical and comparative historical approach to analyzing problems of development and ethnic conflict in Sub-Saharan Africa. Prereq: Soph standing or above. Not open to students with credit for 515 or AfAmAST 4515 (515). Cross-listed in AfAmAST 4515 (515).					
4532	Food Security and Globalization	U	3			
	Examination of the causes and solutions for food insecurity. Global and local factors that affect access to food are also considered. Prereq: AEDEcon 2001 (200) or Econ 2001 (200); or permission of instructor. Not open to students with credit for 434 or 532; or AEDEcon 4532 (532) or 434. Cross-listed in AEDEcon 4532.					
4534	Comparative Challenges to Economic Development: Sub-Saharan Africa, Latin America, and China	U	3			
	An introductory survey course of issues shaping economic development in Sub-Saharan Africa, Latin America, and China, such as: population growth, agricultural development, industrialization, trade, structural adjustment, and environmental issues. Prereq: AEDEcon 2001 (200), or 2001H (200H), or Econ 2001 (200), or 2001H (200H). Not open to students with credit for 4536 (536), or 4538 (538), or 4539 (539), or AEDEcon 4534, or 4536 (536), or 4538 (538), or 4539 (539). Cross-listed in AEDEcon.					
4535	International Economic Development	U	3			
	Study of the growth and diversification of developing economies and the causes of poverty and inequality. Analyze the impacts of human capital formation, markets and public policy on development. Prereq: AEDEcon 2001 (200) or Econ 2001 (200). Not open to students with credit for 435, 535, PubAfrs 4535, AEDEcon 4535 (535), or 435. Cross-listed in AEDEcon and PubAfrs.					
4536	Economic Development of Sub-Saharan Africa	U	3			
	Issues shaping economic development and stagnation in contemporary Africa such as population growth, agricultural development, industrialization, trade, structural adjustment and environmental issues. Prereq: AEDEcon 2001 or (200) or Econ 2001 (200). Not open to students with credit for 436, 536, AEDEcon 436, or 4536 (536). Cross-listed in AEDEcon.					
4537	Middle Eastern Economic Development	U	3			
	Introduction to current economic issues facing Middle Eastern countries, and the similarities and differences in their growth, inflation, unemployment, fiscal and monetary policy, imports, exports, foreign debt and exchange rate policies. Prereq: AEDEcon 2001 (200), or Econ 2001 (200) and 2002 (201), or equiv. Not open to students with credit for 437, 537, Econ 4537 (537), AEDEcon 4537 (537), or 437. Cross-listed in AEDEcon and Econ.					
4538	Latin American Economic Development	U	3			
	Public policy and other factors influencing economic growth in Latin America are examined. Prereq: AEDEcon 2001 (200) or Econ 2001 (200), or equiv. Not open to students with credit for 438, 538, AEDEcon 4538 (538), or 438. Cross-listed in AEDEcon.					
4539	China's Economic Reforms and Globalization	U	3			
	An introductory survey course of economic reforms and globalization in China with emphasis on the country's economic and social transformation, and its integration into the global economy. Prereq: AEDEcon 2001 (200) or Econ 2001 (200), or permission of instructor. Not open to students with credit for 439, 539, AEDEcon 4539 (539), or 439. Cross-listed in AEDEcon.					
4540	International Commerce and the World Economy	U	3			
	Application of trade theory and policies to world trade that impacts global business. Prereq: AEDEcon 2001 (200), 2001H (200H), Econ 2001 (200), or 2001H (200H), or permission of instructor. Not open to students with credit for 540 or AEDEcon 4540 (540). Cross-listed in AEDEcon.					
4550	Bioterrorism: An Overview	U	3			
	A broad awareness course on the bioterrorism threat to our food supply, crops, animal and public health, and bioterrorist organizations. Prereq: Jr or Sr standing. Not open to students with credit for 455 or PlntPth 4550 (455). Cross-listed in PlntPth.					
4560	Cooperation and Conflict in the Global Economy	U	3			
	The economic, social, and political bases for, and responses to, increasing global economic integration. Prereq: Econ 2001 (200) and 2002 (201), or 400, or equiv. Not open to students with credit for 556 or Econ 4560 (556). Cross-listed in Econ.					
4597.01	Food, Population, and the Environment	U	3			
	Issues related to world-wide population increases, food production, and associated environmental stress; policy options for lessening these concerns, especially in low-income countries. Prereq: Jr or Sr standing. Not open to students with credit for 597.01, 4597.01H (597.01H), AEDEcon 4597.01 (597.01), or AEDEcon 4597.01H (597.01H). GE cross-disciplinary seminar course. Cross-listed in AEDEcon.					
4597.01H	Food, Population, and the Environment	U	3			
	Issues related to world-wide population increases, food production, and associated environmental stress; policy options for lessening these concerns, especially in low-income countries. Prereq: Honors and Sr standing, or permission of dept. or instructor. Not open to students with credit for 597.01H, 4597.01 (597.01), AEDEcon 4597.01H (597.01H), or AEDEcon 4597.01 (597.01). GE cross-disciplinary seminar course. Cross-listed in AEDEcon.					
4700	Terror and Terrorism	U	3			
	Focus on the origins, evolution and place of terrorism in the modern world and the ideology, motivation, and methods of a number of terrorist groups. Prereq: Not open to students with credit for 553.					
4700H	Terror and Terrorism	U	3			
	Focus on the origins, evolution and place of terrorism in the modern world and the ideology, motivation, and methods of a number of terrorist groups. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 553 or 553H.					
4701	The Development and Control of Weapons of Mass Destruction	U	3			
	Offers students an overview of the issues relating to atomic, biological, and chemical weapons, commonly referred to as weapons of mass destruction (WMD). Prereq: Not open to students with credit for 555.					
4703	Science, Technology and the American National Security	U	3			
	Explores how science and technology, especially computer science and arms race technologies, influence American actions and priorities in an increasingly complex national security environment. Prereq: Not open to students with credit for 554.					
4704	A Global War on Terror? America's Response to the 9/11 Attacks	U	3			
	Explores the domestic and international impacts of the 9/11 terrorist attacks against the United States. Four different but interrelated wars will be studied: the war against the Taliban in Afghanistan and Pakistan, the war in Iraq, the global war on terror, and the war on the home front-curtailment of civil liberties, militarization of U.S. society, domestic terrorism. Prereq: Soph standing or above.					
4800	Cultural Diplomacy	U	3			
	Cultural Diplomacy is the exchange of information, ideas and values among nations and peoples. Public and private mechanisms for these exchanges are explored. Prereq: Soph standing or above, or permission of instructor. Not open to students with credit for 550.					
4801	Model United Nations	U	3			
	Interactive diplomatic simulation of the political processes of the UN system focusing on selected global problems; involves class discussion, group projects, and significant student participation. Prereq: Not open to students with credit for 552.					
4802	Problems and Prospects for Peace	U	3			
	Integrated seminar focusing on problems encountered with peace strategies and both short and long-term prospects for peaceful change. Prereq: Soph standing, or permission of instructor.					
4803	Intervening for Peace: Peacekeeping and Collective Security	U	3			
	Exploration of the theory and practice of international peacekeeping and collective security. Prereq: Not open to students with credit for 551.					
4804	Applied Nonviolence I: Methods	U	3			
	Provides an introduction to the strategies and methods of pursuing peace and social justice through nonviolence. Through a combination of reading, discussion, and practical experiments participants will develop a sound understanding of nonviolence theory and practice. Prereq: 2800.					
4805	Applied Nonviolence II: Experiment	U	3			
	Applies the knowledge acquired from Applied Nonviolence I and is intended to develop and test the skills necessary to becoming a professional nonviolent activist. Prereq: 4804.					
4806	Intelligence for Diplomacy: Assessing Leadership Style	U	3			
	The assessment of leadership style is one of several core foci for intelligence analysts. It contributes to predictions of a leader's likely behavior. More importantly, it guides efforts, in particular diplomatic efforts, to influence the decisions of political, economic and military leaders. This course introduces students to key theories and research in the political psychology of leadership. Prereq: Soph standing or higher, or permission of instructor. Not open to students with credit for 5195 (Assessing Leadership Style).					
4850	Understanding the Global Information Society	U	3			
	Invites students to think critically about the global networks that are shaping the new knowledge creation & sharing processes. To monitor news, investigate web resources & gather information for assignments, report & case study analysis. Prereq: Soph standing, or permission of instructor.					

4873	Contemporary Religious Movements in Global Context	U	3
Examination of contemporary religious movements within the context of larger political, cultural, and economic processes, including post-colonialism, modernization, and globalization. Prereq: Coursework in CompStd or IntStd, or Grad standing, or permission of instructor. Not open to students with credit for 523 or CompStd 523. Cross-listed in CompStd.			
4998	Undergraduate Research in International Studies	U	1 - 9
Undergraduate research or creative activities in variable topics. Prereq: Regular faculty mentor, and permission of department. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			
4999	Thesis Research	U	1 - 3
Informal conferences to maximize the student's initiative and academic maturation; student and faculty advisor choose a research topic; the results are tested by a written thesis and an oral exam. Must receive a mark of S to graduate with Research Distinction. Prereq: GPA 3.4 or above, and Jr or Sr standing; and permission of tenure-track thesis advisor and department. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			
4999H	Thesis Research	U	1 - 3
Informal conferences to maximize the student's initiative and academic maturation; student and faculty advisor choose a research topic; the results are tested by a written thesis and an oral examination. Prereq: Good standing in Honors College, tenure-track faculty supervisor, and permission of department. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			
5050	Two Koreas: Political Economy of Regional Rivalry	U G	3
Understanding the Korean peninsula. Course will focus on the nature of North and South Korean regional rivalry and its global impacts. Security issues include North Korean nuclear threat, military alliances, & reunification prospects. Prereq: Soph standing, or permission of instructor.			
5051	East Asia in the Post-Cold War Era: Issues in Regional Security & Economic Development	U G	3
Become familiar with and to analyze East Asian regional security and economic issues in the post-Cold War era. Looking at the region as an international subsystem, the course focuses on the regional level and examines its global consequences. Prereq: Soph standing, or permission of instructor.			
5191	Student Intern Program in International Studies	U G	3 - 9
Opportunity to gain knowledge of the policy process in a local, national, international or government agency. Prereq: GPA 3.0 or above, and Jr, Sr, or Grad standing. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			
5193	Individual Studies	U G	1 - 6
Designed to give able students an opportunity to pursue a special course of study not otherwise available to them in course form. Prereq: Permission of instructor. Not open to students with credit for 693. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			
5194	Group Studies	U G	1 - 3
Designed to give groups of students an opportunity to pursue special studies not otherwise offered. Prereq: Permission of instructor. Not open to students with credit for 694. Repeatable to a maximum of 9 cr hrs or 9 completions.			
5195	Selected Problems in International Studies	U G	3
Class Discussions, with several guest speakers, informal conferences, and a reading and research program arranged to meet the special needs of those enrolled. Counts against credits IntStd major can receive for 419. Prereq: Jr or Sr standing. Repeatable to a maximum of 9 cr hrs.			
5616	Challenges to Childhood: An International Perspective	U G	3
Course will explore children's forced participation in war and its consequences and child poverty, labor, health, abuse, and victimization in international perspective. Prereq: Soph standing or above, or permission of instructor. Not open to students with credit for 616 or Sociol 5616 (616). Cross-listed in Sociol.			
5640	Globalization and Latin America: Multi-Disciplinary Approaches	U G	3
Explores current debates on globalization in Latin America and recent and interrelated transformations in the economies, politics, and cultures of the region. Prereq: Jr standing or above. Not open to students with credit for 640 or Spanish 5640 (640). Cross-listed in Spanish.			
5645	Contemporary Issues in the Middle East	U G	3
Intensive examination of contemporary issues in the Middle East by applying an interdisciplinary approach. Prereq: 2200 (245), or Jr standing. Not open to students with credit for 645 or NELC 5645 (645). Cross-listed in NELC.			
5700	Rebuilding Failed and Weak States	U G	3
Tackles the question of how to design policies and programs to rebuild failed and weak states into functioning, if not vibrant democracies. Prereq: Soph standing or above, or permission of instructor. Not open to students with credit for PubAfrs 5700 (670) or PubPolM 670. Cross-listed in PubAfrs.			

5701	Intelligence and National Security in a Changing World	U G	3
An in-depth look at US intelligence practices, effectiveness & impact on policymaking; examines the role of secret activities in a democracy; delves heavily into current events from an intelligence perspective; looks at new intelligence challenges. Prereq: 3700 or 3700H (350 or 350H), or permission of instructor.			

5701E	Intelligence and National Security in a Changing World	U G	3
An in-depth look at US intelligence practices, effectiveness and impact on policymaking; examines the role of secret activities in a democracy; delves heavily into current events from an intelligence perspective; looks at new intelligence challenges. Prereq: Honors standing, and 3700 (350) or 3700H (350H); or permission of instructor.			

5702	Research on Organized Violence	U G	3
Introduces students to the process of independent research through an in-depth examination of the Troubles in Northern Ireland.			

5703	Thinking And Writing: A Practicum for Intelligence Analysis	U G	3
Students will practice writing forms regularly used by the US intelligence community. Designed to provide high-level US policymakers with both raw information & detailed analysis on international events. Requires extensive research.			

5797	Study at a Foreign Institution	U G	1 - 18
An opportunity for students to study at a foreign institution and receive OSU credit for work completed there. Students will pay OSU fees and any fees in excess of OSU tuition, as well as all travel and subsistence costs. Prereq: Permission of department chairperson. Repeatable.			

5800	International Law	U G	3
Examination of the varied sources, traditions, functions and structures of international law and its significance in maintaining stability, continuity and communication in the international system. Prereq: Soph standing or above, or permission of instructor. Not open to students with credit for 650.			

5801	Children and War	U G	3
Explores how children are affected by war, as forced participants, orphans and refugees. Long-term effects on society will be studied. Prereq: Soph standing or above, or permission of instructor. Not open to students with credit for 615.			

Italian

1101.01	Italian I	U	4
Introduction to language and culture of the Italian speaking world with emphasis placed on the acquisition of basic communication skills in a cultural context. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 2 or more years of high school Italian. Prereq: Not open to students with credit for 1101, 1101.02, 5101, or 101. This course is available for EM credit. GE for lang course. FL Admis Cond course.			

1101.02	Italian I Hybrid	U	4
Covers the same material presented in Italian 1101.01 but students attend class two days/week and complete the rest of their work on-line. This course is not for everyone. The successful student is organized, self-motivated, able to learn grammar concepts on his/her own, and is comfortable with technology. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 2 or more years of high school Italian. Prereq: Not open to students with credit for 101, 1101, 1101.01 or 5101. This course is available for EM credit. GE for lang course.			

1101.03	Italian I Blended	U	4
Introduction to language and culture of the Italian speaking world with emphasis placed on the acquisition of basic communication skills in a cultural context. Students attend class three days/week and complete the equivalent of the work of one class period online. Not open to native speakers of this language. Prereq: Not open to students with credit for 1101.01, 1101.02, or 5101. This course is available for EM credit. GE for lang course.			

1102.01	Italian II	U	4
Continued development of Italian language skills and cultural knowledge for effective communication, with emphasis on more advanced language structures, sustained interactions, reading, and writing. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1101, 1101.01, 1101.02, or 101. Not open to students with credit for 1102, 102, 1102.02, or 5101. This course is available for EM credit. GE for lang course. FL Admis Cond course.			

1102.02	Italian II Hybrid	U	4
Covers the same material presented in Italian 1102.01 but students attend class two days/week and complete the rest of their work on-line. This course is not for everyone. The successful student is organized, self-motivated, able to learn grammar concepts on his/her own, and is comfortable with technology. Prereq: 1101, 1101.01, 1101.02, or 101. Not open to students with credit for 1102, 102, 1102.01, or 5101. This course is available for EM credit. GE for lang course.			

258 Italian

1102.03	Italian II Blended	U	4	Continued development of skills needed for independent use of Italian. Activities address topics of the contemporary Italian speaking world. Taught in Italian. Students attend class three days/week and complete one day of class work on-line. Not open to native speakers of this language. Prereq: 1101.01, 1101.02, or 1101.03. Not open to students with credit for 1102.01, 1102.02, or 5101. This course is available for EM credit. GE for lang course.	
1103.01	Italian III	U	4	Continued development of skills needed for independent use of Italian. Activities address topics of the contemporary Italian speaking world. Taught in Italian. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1102 (102), 1102.01, or 1102.02. Not open to students with credit for 1103, 103, 1103.02, or 5101. This course is available for EM credit. GE for lang course. FL Admis Cond course.	
1103.02	Italian III Hybrid	U	4	Covers the same material presented in Italian 1103.01 but students attend class two days/week and complete the rest of their work on-line. This course is not for everyone. The successful student is organized, self-motivated, able to learn grammar concepts on his/her own, and is comfortable with technology. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1102, 1102.01, 1102.02, or 102. Not open to students with credit for 1103, 103, 1103.01, or 5101. This course is available for EM credit. GE for lang course.	
1103.03	Italian III Blended	U	4	Continued development of skills needed for independent use of Italian. Activities address topics of the contemporary Italian speaking world. Taught in Italian. Students attend class three days/week and complete one day of class work on-line. Not open to native speakers of this language. Prereq: 1102.01, 1102.02, or 1102.03. Not open to students with credit for 1103.01, 1103.02, 5101. This course is available for EM credit. GE for lang course.	
2051	Fictions of Italy: Medieval and Renaissance Literature and Society	U	3	Introduction to social-cultural trends in Italy as reflected in literary texts and other materials from the beginnings to the Renaissance. Taught in English. Prereq: Not open to students with credit for 151. GE lit and diversity global studies course.	
2052	Fictions of Italy: Modern and Contemporary Literature and Society	U	3	Introduction to social-cultural trends in Italy as reflected in literary texts and other materials from the Renaissance to the present. Prereq: Not open to students with credit for 152. GE lit and diversity global studies course.	
2053	Introduction to Italian Cinema	U	3	Survey of the Italian cinema from the beginnings to today, with special emphasis on neorealism. Taught in English. Prereq: Not open to students with credit for 221. GE VPA and diversity global studies course.	
2054	Dante in Translation	U	3	Study of Dante's Divine Comedy with a focus on the Inferno. Students will explore the historical, religious, philosophical and literary world that the poem engages. Prereq: English 1110 (110, 110.01, 110.02, or 110.03). Not open to students with credit for 251. GE lit course.	
2055	Mafia Movies	U	3	Examines Italian and American mafia movies made from 1905 to the present day and traces the history of the Italian and Italian American Mafias. Taught in English. GE VPA course.	
2102	Contemporary Italian Society	U	3	Exploration of a variety of aspects of contemporary Italian society and culture while developing language skills. Special focus on reading skills. Not open to native speakers of Italian. Prereq: A grade of C- or above in 1103, 1104.30 (104), or 5101; or permission of instructor. Not open to students with credit for 202. FL Admis Cond course.	
2193	Individual Studies	U	1 - 9	Individual studies. Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs or 9 completions.	
2194	Group Studies	U	1 - 9	Group studies. Repeatable to a maximum of 9 cr hrs or 9 completions.	
3051	The Crossroads of Romance: Tales of Heroes and Monsters from the Odyssey to Star Wars	U	3	In this course, students will become familiar with the medieval foundations of the romance genre; analyze the figure of the knight errant who wanders far from the center of his or her culture; and investigate the abiding influence of romance storytelling on how stories are told and communities are represented in contemporary literature and film. Prereq: English 1110, or equiv. GE lit and diversity global studies course.	
3103	Styles and Stylistics	U	3	Development of writing skills in various contexts such as advertisements, poems, letters, film critiques and research papers. Not open to native speakers of Italian. Prereq: 2102, or permission of instructor. FL Admis Cond course.	
3220	Italian Culture Through the Ages	U	3	An overview of Italian cultural history from the Medieval period to today; develops language skills through discussion of readings and film. Not open to native speakers of Italian. Prereq: 2102 (202), or permission of instructor. Not open to students with credit for 420. FL Admis Cond course.	
3221	Reading Italy: Italian Literature and Culture	U	3	An exploration of the culture and history of different periods through selected works of Italian literature. Not open to native speakers of Italian. Prereq: 2102 (202), or permission of instructor. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.	
3222	Modern Italian Media	U	3	Development of language skills using Italian media sources such as soap operas, internet resources, films, newspapers/magazines, etc. Not open to native speakers of Italian. Prereq: 2102 (202), or permission of instructor. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.	
3223	The Regions of Italy	U	3	Development of language skills while studying the histories and cultures of a variety of regions of Italy. Not open to native speakers of Italian. Prereq: 2102 (202), or permission of instructor. Not open to students with credit for 425. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.	
3224	Post-Unification Italy	U	3	An exploration of the cultural history of Italy from unification to the present day. Develops language skills through discussing visual media, literature, pop culture. Not open to native speakers of Italian. Prereq: 2102 (202). FL Admis Cond course.	
3331	The Languages of Italy	U	3	Development of language skills while studying the structures and uses of modern Italian and the languages spoken in Italy today. Not open to native speakers of Italian. Prereq: 2102 (202), or permission of instructor. FL Admis Cond course.	
3332	The Sounds of Italian	U	3	An introduction to Italian phonetics and phonology. Special focus on pronunciation. Not open to native speakers of Italian. Prereq: 2102 (202), or permission of instructor. Not open to students with credit for 402.	
3570	CLLC Radio	U	3	Student partners prepare 3 target language broadcasts, each 1 hour in length. Broadcasts stream live over the Internet, then become podcast for public use. Student "DJs" conduct target language research on radio broadcast history and at least 15 thematic topics and related music that interests them. Students choose their music and content with approval and guidelines, then produce scripts. Prereq: Permission of instructor.	
3797	Italy Abroad	U	1 - 9	Study abroad experience focusing on one of a variety of topics, such as urban life and contemporary society for students with no background in Italian. Prereq: Not open to native speakers of Italian. Repeatable to a maximum of 9 cr hrs or 9 completions.	
3798.01	The Italian City	U	3 - 9	Study of contemporary Italian society and culture (particularly urban life) in Italy. Closed to native speakers of this language. Prereq: One 3000-level course or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. FL Admis Cond course.	
3798.02	Experience Italy	U	3 - 9	Study abroad experience that is the continuation of any one of the following courses: 3320, 3321, 3323, 3324, 3331, 4423, 4424, 4425. Students must enroll in the course that accompanies this study abroad experience. Not open to native speakers of Italian. Prereq: 3320, 3321, 3323, 3324, 3331, 4423, 4424, or 4425. Repeatable to a maximum of 9 cr hrs or 3 completions. FL Admis Cond course.	
4191	Internship in Italy	U	3	A professional and social experience in the target language. Students with intermediate/advanced language skills are placed with organizations where they will speak Italian in a professional environment. Prereq: 2102, CPHR 2.75 or above, and GPA 3.00 or above in Italian.	
4223	Italian Cinema	U	3	Examination of Italian cinema from Neorealism to the present. Discussion of contemporary society and culture with a brief introduction to film theory. Not open to students who are native speakers of Italian. Prereq: One course at the 3000 (400) level or above, or permission of the instructor. Not open to students with credit for 613. FL Admis Cond course.	
4224	Survey of Italian Literature	U	3	Overview of selected works of Italian literature from the origins to today. Special focus on the cultural and historical contexts of the text studied. Not open to native speakers of Italian. Prereq: One course taken at the 3000 (or 400) level or above, or permission of instructor. Not open to students with credit for 614. FL Admis Cond course.	

4225 Italian Identities	U 3	7301 Teaching French and Italian at the College Level	G 3
Examination of the experiences and perspectives of Italians (including emigrants) through reading, film, and discussion. Topics could include popular culture, Italian Americans, and immigration in Italy. Not open to native speakers of Italian.		Methods and techniques for teaching French and Italian at the college level. For students enrolled in this course, the minimum number of cr hrs required for graduation is increased by 3 hrs.	
Prereq: One course taken at the 3000 (400) level or above, or permission of instructor. Not open to students with credit for 615. FL Admis Cond course.		Prereq: Teaching associate in the Dept of French and Italian, or permission of instructor. Not open to students with credit for 801 or French 801. Cross-listed in French 7301.	
4226 Italian Theater Workshop	U 3	8193 Individual Studies	G 1 - 9
The study, adaptation and presentation of a play in Italian. Not open to native speakers of Italian.		Individual Studies.	
Prereq: Two 3000 (400) level courses, or permission of instructor. Not open to students with credit for 450 or 3225. FL Admis Cond course.		Prereq: MA and PhD candidates, qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions.	
4330 Structures of the Italian Language	U 3	8194 Graduate Group Studies	G 1 - 9
Introduction to the basic concepts of Italian linguistics; improve and refine understanding of grammar; focus on several advanced-level structures. Not open to native speakers of Italian.		Graduate group studies.	
Prereq: One course taken at the 3000 (or 400) level or above, or permission of instructor. Not open to students with credit for 601. FL Admis Cond course.		Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions.	
4331 Italian Translating	U 3	8221 Studies in Italian Literature: Author	G 3
Translation from Italian to English and English to Italian of texts from diverse sources; analysis of prose styles and conventions in the two languages. Not open to native speakers of Italian.		Focus on one author from any time period.	
Prereq: One course taken at the 3000 (or 400) level, or permission of instructor. Not open to students with credit for 602. FL Admis Cond course.		Prereq: Doctorial or MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.	
4998 Undergraduate Research	U 1 - 3	8222 Studies in Italian Literature: Genre	G 3
Undergraduate research or creative activities in variable topics.		Focus on one genre from one or several time periods.	
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions.		Prereq: Doctorial or MA candidates or, qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.	
4998H Honors Research	U 1 - 3	8223 Studies in Italian Literature: Theme	G 3
A program of individual study for undergraduate honors students; includes individual conferences and reports.		Focus on one theme from one or several time periods.	
Prereq: Honors standing, CPHR 3.5 or above in Italian, Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions.		Prereq: Doctorial or MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.	
4999 Undergraduate Thesis	U 3	8231 Dante Studies	G 3
Undergraduate thesis. Topics vary.		Focus on variable selection of Dante's work, from early works to the Commedia, as well as cultural contexts. Attention also to the practice of Dante criticism.	
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.		Prereq: Doctoral and MA candidates, and qualified undergraduates with permission of instructor. FL Admins Cond course.	
4999H Honors Thesis	U 3	8233 Boccaccio and the Art of the Short Story	G 3
Undergraduate Honors Thesis. Topics vary.		Intensive study of Boccaccio's Decameron with comparison to sources as well as later works such as The Canterbury Tales and The Heptameron.	
Prereq: Honors standing and permission of instructor. Repeatable to a maximum of 15 cr hrs.		Prereq: Doctorial and MA candidate, or qualified undergraduates with permission of instructor. Not open to students with credit for 622. FL Admis Cond course.	
5051 Latin and the Romance Languages	U G 3	8242 Studies in Italian Culture: Gender and Genre	G 3
Examines the socio-historical factors and the linguistic processes that contributed to the formation of the Romance languages and to their divergences. Course taught in English.		Examines representations of gender in film, literature, poetry or other media. May focus on one period/issue or address a center or longer time period.	
Prereq: Equivalent of 1103 in Italian, French, Spanish, Portuguese, Romanian, or Latin, or permission of instructor. Not open to students with credit for 692, French 692, RomLing 5051 (692), or Clas 5051. Cross-listed in Clas and RomLing.		Prereq: Doctorial and MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.	
5101 Intensive Italian	U G 5	8243 Studies in Italian Cinema	G 3
Covers the same material in Italian 1101, 1102, and 1103 in one semester course. The course is necessarily fast-paced and ideal for students who find learning foreign languages fun and interesting. Previous foreign language study ideal but not required. Not open to native speakers of Italian.		Detailed exploration and analysis of selected topics in Italian cinema.	
GE for lang course. FL Admis Cond course.		Prereq: Doctorial and MA Candidates or, qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.	
5193 Individual Studies	U G 1 - 9	8244 Studies in Italian Culture: Italy at War	G 3
Individual Studies		Detailed analysis of either filmic or literary representations of periods of strife in modern Italian culture.	
Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs or 9 completions.		Prereq: Doctorial or MA candidates or, qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.	
5194 Group Studies	U G 1 - 9	8245 Italian Pop Culture	G 3
Group studies.		Exploration of new media, popular television, film, music, literature or other visual or performing arts.	
Prereq: Written permission of department. Repeatable to a maximum of 9 cr hrs or 9 completions.		Prereq: Doctorial or MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.	
5331 History of the Italian Language	U G 3	8246 Studies in Italian Culture: Migrating Italy	G 3
Introduction to basic concepts of historical linguistics; exploration of the major factors of change in the history of the Italian language.		In-depth exploration of Italian literature, film and culture of immigration and emigration. Primary texts may include novels, travel logs/journals, films, documentaries, newspaper articles, and propaganda material.	
Prereq: Two Italian courses at the 3000-level or above; or Doctoral or MA Candidate; or qualified Undergraduates, and permission of instructor. Not open to students with credit for 711. FL Admis Cond course.		Prereq: Doctorial or MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.	
5797 Study at a Foreign Institution	U G 1 - 9	8303 Teaching Apprenticeship	G 1 - 3
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.		Apprenticeship for advanced doctoral students to work with faculty members on the design and teaching of upper-level Italian language, literature, and culture courses.	
Repeatable to a maximum of 9 cr hrs or 9 completions. FL Admis Cond course.		Prereq: Two years previous teaching experience, and permission of instructor and Graduate Studies chair. Repeatable to a maximum of 6 cr hrs or 2 completions.	
6193 Graduate Independent Studies	G 1 - 15	8602 Comparative French and Italian Studies	G 3
Graduate independent studies.		Focuses on a comparative aspect of French and Italian studies. Content varies.	
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.		Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs. Cross-listed in French.	
6194 Graduate Group Studies	G 1 - 15	8881 Interdepartmental Studies in the Humanities	G 1 - 6
Graduate group studies.		Two or more departments present colloquia on subjects of mutual interest; topics to be announced. Repeatable with permission from the department .	
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.		Prereq: Grad standing. Repeatable to a maximum of 6 cr hrs or 2 completions.	

260 Italian

8899 Dissertation Workshop G 1

Faculty-led workshop in which PhD candidates meet weekly to discuss and critique their current dissertation research. Required each semester for PhD candidates, including the semester in which they defend the dissertation.

Prereq: Doc't standing in French or Italian. Repeatable to a maximum of 9 completions.

8998 Pre-Candidacy Research G 1 - 9

Pre-candidacy research and examination preparation for advanced graduate students. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

8999 Dissertation Research G 1 - 9

Research for dissertation.

Prereq: Candidacy exams completed. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

Japanese

1101.01 Level One Japanese I: Classroom Track U 4

Standard Japanese at the elementary level, with emphasis on building & applying basic language knowledge in doing things in Japanese; exercises in oral interactions & interactions involving text; introduction to the Japanese writing system. Not open to native speakers of this language through regular course enrollment or EM credits, or to students with 3 or more years of study in this language.

Prereq: Not open to students with credit for 1101.02 (101.01) or 4 credits of 1101.51 (101.51). This course is available for EM credit. GE for lang course. FL Admis Cond course.

1101.02 Level One Japanese I: Summer Intensive Track U 4

Standard Japanese at the elementary level, with emphasis on knowledge in doing things in Japanese; intro to the writing system. Sum Intensive. Admission to SPEAC program is required, 4 cr hrs during the first 3.5 weeks of the Summer Session.

Prereq: Application and admission to SPEAC program. Not open to students with credit for 1101.01 (101.01), 1101.51, or 102; or to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GE for lang.

1101.51 Level One Japanese I: Individualized Track U 1 - 4

Japanese at elem level, emphasis on building & applying basic lang knowledge in doing things in Japanese; exercises in oral interactions, involving text; intro to writing system. Progress is seq from 1 hr to next with prof at 80% req'd for advance.

Prereq: Not open to students with credit for 1101.01 (101), 1101.02 (102), or 4 credits of 1101.51; or to native speakers of this language through regular course enrollment or EM credit, or to students with 3 or more years of study of this language in high school, except by permission of dept. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102.01 Level One Japanese II: Classroom Track U 4

Continuation of Japanese 1101.

Sp Sem. Prereq: 1101.01 or 1101.02 or 4 credits of 1101.51. Not open to students with credit for 1102.02 (102.02) or with 4 credits of 1102.51 (103.51); or to native speakers of this language through regular course enrollment or EM unit. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102.02 Level One Japanese II: Summer Intensive Track U 4

Continuation of 1101.01, 1101.02, or 4 credits of 1101.51. Summer Intensive. Admission to SPEAC program is required for registration and complete 4 credits during the second 3.5 weeks of the Summer Session.

Prereq: 1101.01 or 1101.02 or 4 cr hrs of 1101.51; application and admission to SPEAC program. Not open to students with credit for 1102.01 or 4 credits of 1102.51, 102.02, or 103.02; or to native speakers of this language through regular course enrollment or EM credit. GE for lang course. FL Admis Cond course.

1102.51 Level One Japanese II: Individualized Track U 1 - 4

Continuation of 1101.01, 1101.02, or 4 credits of 1101.51. Individualized. Students complete from 1 to 4 units during the semester. Progress is sequential from one unit to the next with proficiency at the level of 80% required for advancement.

Prereq: 1101.01 or 1101.02 or 4 units of 1101.51. Advancement to the first credit in this course in the same semester as the completion of the 4th credit for 1101.51 requires registration for both courses, with permission of instructor. Not open to students with credit for 1101.01, 1101.02, or 4 credits of 1101.51, or 102.51, or 103.51; or to native speakers of this language through regular course enrollment or EM credits. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.01 Level Two Japanese I: Classroom Track U 4

Continuation of 1102.01, 1102.02, or 4 credits of 1101.51; expanding oral and written communicative strategy building. Students must complete 4 units during the semester. Not open to native speakers of this language through regular course enrollment or EM credit.

Au Sem. Prereq: 1102.01, 1102.02, or 4 units of 1102.51. Not open to students with credit for 1103, 4 credit of 1103.51, or 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.02 Level Two Japanese I: Summer Intensive Track U 4

Continuation of 1102.01, 1102.02, or 4 credits of 1102.51, and expanding oral and written communication. Intensive. Students must complete 4 or hrs during the first 3.5 weeks of the Summer Session. Not open to native speakers of this language through regular course enrollment or EM credit.

Su Sem. Prereq: 1102.01 or 1102.02, or 4 sem cr hrs of 1102.51; and application and admission to SPEAC program. Not open to students with credit for 1103, 4 sem cr hrs of 1103.51, or 104. GE for lang course. FL Admis Cond course.

1103.51 Level Two Japanese I: Individualized Track U 1 - 4

Continuation of 1102.01, 1102.02, or 4 credits of 1102.51. Individualized. Students complete from 1 to 4 units during the semester. Progress is sequential from one or hr to the next with proficiency at the level of 80% required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit.

Prereq: 1102.01 or 1102.02, or 4 units of 1102.51. Advancement to the first credit in this course in the same semester as the completion of the 4th credit for 1102.51 requires registration for both courses, with permission of instructor. Not open to students with credit for 1103, 4 sem cr hrs of 1103.51, or 104. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

2102.01 Level Two Japanese II: Classroom Track U 5

Continuation of 1103.01, 1103.02, or 4 credits of 1103.51. Expanding oral and written communication strategies. Students must complete 5 units during the semester.

Sp Sem. Prereq: 1103.01 or 1103.02, or 4 units of 1103.51. Not open to students with credit for 2102.02, 205, or 206; or to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. FL Admis Cond course.

2102.02 Level Two Japanese II: Summer Intensive Track U 5

Continuation of 1103.01, 1103.02, or 4 credits of 1103.51, expanding oral and written communication. Intensive. Students must register for the course at the beginning of the term and complete 5 cr hrs during the second 3.5 weeks of the term

Su Sem. Prereq: Japnese 1103.01, 1103.02, or 4 cr hrs of 1103.51, or equiv, and application and admission to SPEAC program; or permission of instructor. FL Admis Cond course.

2141 Intensive Level Two Japanese-Oral U 4

First course in the sequence of academic-year intensive Japanese courses; organized around a set of videotaped core conversations.

Au Sem. Prereq: 1102.01 or equivalent, and permission of instructor. Concur: 2151. Not open to students with credit for 1103, 2102, or 210. This course is available for EM credit. GE for lang course. FL Admis Cond course.

2151 Intensive Level Two Japanese-Written U 5

Second course in the sequence of academic year intensive Japanese courses; organized around reading Japanese and a series of genre-specific samples of Japanese as it is written today.

Au Sem. Prereq: 1102.01 or equivalent, and permission of instructor. Concur: 2141. Not open to students with credit for 1103, 2102, or 211. This course is available for EM credit. FL Admis Cond course.

2231 Elements of Japanese Culture U 3

A survey of literature, art, religion, philosophy, film, and social institutions of the Japanese people from the earliest to the most recent times. Taught in English.

Prereq: Not open to students with credit for 231. GE cultures and ideas and diversity global studies course.

2255 Postwar Culture in Germany and Japan U 3

This course will examine postwar culture in Germany and Japan, looking at films, theoretical texts, memoirs, manifestos, and literary works, subjecting our material to cross-cultural analysis that should deepen as our basis for comparison expands. Team-taught with faculty in German.

Prereq: Not open to students with credit for German 2255. Cross-listed in German. GE cultures and ideas course.

2451 Japanese Literature in Translation U 3

Representative masterpieces from Japan's literary tradition: fiction, poetry, drama, prose. Taught in English.

Prereq: Not open to students with credit for 251. GE lit and diversity global studies course.

2452 Modern Japanese Literature in Translation U 3

Modern Japanese literature and media from late 19th century Western influences to contemporary writers; selected readings in English translation.

Prereq: Not open to students with credit for 252. GE lit and diversity global studies course.

4101 Level Three Japanese I U 5

Expansion of strategies for communication through oral and textual media.

Au Sem. Prereq: 2102.01 or 2102.02, or equivalent with permission of instructor. Not open to students with credit for 507 or 508. This course is available for EM credit. FL Admis Cond course.

4102 Level Three Japanese II U 5

Continuation of 4101; supplementary readings in short stories and standard reference works.

Sp Sem. Prereq: 4101, or equivalent with permission of instructor. Not open to students with credit for 508 or 509. This course is available for EM credit. FL Admis Cond course.

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4142	Intensive Level Three Japanese-Oral	U	5	
	Third course in the sequence of academic-year intermediate intensive Japanese courses; organized around a set of videotaped core conversations.			
	Sp Sem. Prereq: 1102.01, and permission of instructor; or 2141 with 2151 and permission of instructor. Concur: 4152. Not open to students with credit for 2102.01, 310, or 510. This course is available for EM credit. FL Admis Cond course.			
4152	Intensive Level Three Japanese-Written	U	5	
	Fourth course in the sequence of academic-year intensive Japanese courses; organized around reading a set of genre-specific samples of Japanese as it is written today; integrated with 4142 in structure and vocabulary.			
	Au Sem. Prereq: 2101, and permission of instructor; or 2141 with 2151 and permission of instructor. Concur: 4142. Not open to students with credit for 4102, 311, or 511. This course is available for EM credit. FL Admis Cond course.			
4193	Individual Studies	U	1 - 3	
	Directed study to meet individual research needs of students in Japanese studies. Not a substitute for regular language courses.			
	Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.			
4194	Group Studies	U	1 - 3	
	Group investigation of issues in Japanese studies. Varying topics.			
	Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.			
4400	Japanese Film and Visual Media	U	3	
	An overview of Japanese cinema and visual media, with a focus on genre: canonical and popular works of anime, yakuza film, historical/samurai film, comedies, and documentaries. Taught in English, no Japanese required.			
4401	Japanese Literature and Film in Critical Perspective	U	3	
	Survey in translation of canonical works of Japanese literature and film and introduction to methods for the critical evaluation of the Japanese literary tradition.			
	Prereq: 2451 or 2452, or equivalent; or permission of instructor. Not open to students with credit for 501.			
4998	Undergraduate Research Project	U	3	
	Focused research toward completion of an original project.			
	Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
4998H	Honors Undergraduate Research Project	U	3	
	Focused research toward completion of an original project.			
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
4999	Undergraduate Research Thesis	U	2 - 4	
	Focused research toward completion of an original thesis.			
	Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 2 completions. This course is graded S/U.			
4999H	Honors Undergraduate Research Thesis	U	2 - 4	
	Focused research toward completion of an original thesis.			
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 2 completions. This course is graded S/U.			
5101.01	Level Four Japanese I: Classroom Track	U G	3	
	Continuation of 4102.01 or 4142/4152 with an increasing emphasis on presentation mode of communication. Students must complete 3 units during the semester.			
	Au Sem. Prereq: 4102 or 4142/4152. Not open to students with credit for 5101.02, or 611.01 and 610. FL Admis Cond course.			
5101.02	Level Four Japanese I: Summer Intensive Track	U G	3	
	Continuation 4102.01 or 4142/4152; expansion of communicative strategies with increased emphasis on presentational mode of communication. Readings in various genres. Sum. Intensive. Must complete 3 credits during the first 3.5 weeks of the term.			
	Prereq: 4102, or 4142 and 4152; or permission of instructor, and application and admission to SPEAC program. Not open to students with credit for 5101.01, 610.02, or 611.02. FL Admis Cond course.			
5102.01	Level Four Japanese II: Classroom Track	U G	3	
	Continuation of 5101.01 or 5101.02. Students must complete 3 units during the semester.			
	Sp Sem. Prereq: 5101.01 or 5101.02. Not open to students with credit for 5102.02, 611.01, or 612.01. FL Admis Cond course.			
5102.02	Level Four Japanese II: Summer Intensive Track	U G	3	
	Continuation of 5101.01 or 5101.02. Sum. Intensive. Students must register for the course at the beginning of the term and complete 3 credits during the second 3.5 weeks of the term.			
	Prereq: 5101.01, 5101.02, or permission of instructor; application and admission to SPEAC program. Not open to students with credit for 5102.01, 611.02, or 612.02. FL Admis Cond course.			
5103.51	Level Five Japanese I: Individualized Track	U G	1 - 3	
	Continuation of 5102.01 or 5102.02, with an increasing emphasis on presentation mode of communication. Individualized Track. Students complete from 1 to 3 units during the semester.			
	Au Sem. Prereq: 5102.01 or 5101.02. Not open to students with 9 cr hrs of 5103.51, or 710.51 and 711.51. Repeatable to a maximum of 9 cr hrs or 4 completions. This course is available for EM credit.			
5104.51	Level Five Japanese II: Individualized Track	U G	1 - 3	
	Continuation of 5103.51. Individualized. Students must complete from 1 to 3 units during the semester.			
	Sp Sem. Prereq: 5102.01 or 5102.02. Not open to students with 9 cr hrs of 5104.51, or 711.51 and 712.51. Repeatable to a maximum of 9 cr hrs or 4 completions. This course is available for EM credit. FL Admis Cond course.			
5111	Classical Japanese I	U G	3	
	Develops familiarity with traditional Japanese and Western grammatical concepts, categories, functions, and reference tools for reading early Japanese, in close reading of selected primary texts and linguistic analysis.			
	Prereq: 4102, 4152 or equivalent; or permission of instructor. Not open to students with credit for 601. FL Admis Cond course.			
5112	Classical Japanese II	U G	3	
	Advanced readings of premodern Japanese texts with attention to various problems of language history and literary genres.			
	Prereq: 5111, or permission of instructor. Repeatable to a maximum of 6 cr hrs.			
5121	Kanbun	U G	3	
	Introduces the basics of grammar of classical Japanese kanbun texts.			
	Prereq: 5111 and 5112.			
5194	Und/Grad Group Studies	U G	1 - 3	
	Group investigation of issues in Japanese studies designed for a mix of undergraduate and graduate students. Varying topics.			
	Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.			
5271	The Japanese Religious Tradition	U G	3	
	A survey of the Japanese religious tradition, including Shinto, Buddhism, Taoism, Neo-Confucianism, and folk religion from the 6th century B.C.E. to the present.			
	Prereq: Not open to students with credit for 641, CompStd 5871 (641) or RelStds 5871. Cross-listed in RelStds 5871.			
5311.51	Self-Monitoring Skill Development in Performance-Oriented Language Learning: Individualized	U G	1 - 3	
	Develop self-monitoring skills as a way to enhance skill learning, especially in the context of intensive language study.			
	Concr: 1101.02 and 1102.02; 1103.02 and 2102.02; or 5101.02 and 5102.02. Repeatable to a maximum of 9 cr hrs or 3 completions.			
5315	Japanese Language: Structure, Culture, and Communication I	U G	3	
	Critical and comprehensive survey of structural, cultural, and communicative aspects of the Japanese language. Taught in English.			
	Prereq: 1101.01, 1101.02, or 4 units of 1101.51. Not open to students with credit for 515.			
5316	Japanese Language: Structure, Culture, and Communication II	U G	3	
	Critical and comprehensive survey of structural, cultural, and communicative aspects of the Japanese language.			
	Prereq: 1103, 5315, or permission of instructor. Not open to students with credit for 516.			
5380	Japanese Linguistics	U G	3	
	Examination of the phonology, syntax, and lexicon of the Japanese language.			
	Prereq: Permission of instructor. Not open to students with credit for 680.			
5381	History of the Japanese Language	U G	3	
	A survey of the development of the Japanese language from earliest times to the present.			
	Prereq: Japanese Level III, or permission of instructor. Not open to students with credit for 681.			
5400	Performance Traditions of Japan	U G	3	
	Introduction to performance traditions of Japan; explores selected performing arts in their cultural contexts and examines patterns of emergence in modern times.			
	Prereq: 2231, 2451, or 2452; or Chinese 2231 or 2451; or Korean 2231 or 2451; or EALL 1231; or permission of instructor. Not open to students with credit for 600.			
5454	Japanese Literature: Classical Period	U G	3	
	Survey of Japanese literature from the eighth to the twelfth century: myths, court poetry, tales, fiction, diaries, and miscellanies.			
	Prereq: 2231, 2451, 2452, or another Japanese literature course at the 2000 level or above; or permission of the instructor. Not open to students with credit for 654.			
5455	Japanese Literature: Medieval and Edo Periods	U G	3	
	Survey of Japanese literature from the thirteenth to the early nineteenth century: popular tales, poetry, drama, and the fiction of the merchant class.			
	Prereq: 2231, 2451, 2452, or another Japanese literature course at the 2000 level or above, or permission of instructor. Not open to students with credit for 655.			
5798.02	Study Tour: Foreign	U G	8 - 21	
	Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Repeatable for different titled study tours only.			
	Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 3 completions.			

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6193 Individual Studies	G	1 - 3	2241 Yiddish Culture	U	3
Requires the use of Japanese sources and the completion of a paper reflecting the student's research. Not a substitute for regular language courses.					
Prereq: 4102 or 5112, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			Introductory survey of political, social, ideological, and religious trends as reflected in Yiddish culture, especially folklore and literature.		
Prereq: Not open to students with credit for Yiddish 2241 (241). GE cultures and ideas and diversity global studies course. Cross-listed in Yiddish.					
6194 Group Studies	G	1 - 3	2242 Culture of Contemporary Israel	U	3
Group investigation of issues in Japanese studies. Varying topics.					
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.			An introduction to the Culture of modern Israel: historical roots, socio-political institutions and developments, and literary and artistic creations reflecting the realities of contemporary Israeli society.		
Prereq: Not open to students with credit for 2242H, Hebrew 2241 (241), or 2241H (241H). GE cultures and ideas and diversity global studies course. Cross-listed in Hebrew 2241.					
6998 Research in Japanese: Project	G	1 - 3	2242H Culture of Contemporary Israel	U	3
Research leading to the completion of a project other than a conventional MA thesis.					
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.			An introduction to the culture of modern Israel: historical roots, socio-political institutions and developments, and literary and artistic creations reflecting the realities of contemporary Israeli society.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2242, Hebrew 2241 (241), or 2241H (241H). GE cultures and ideas and diversity global studies course. Cross-listed in Hebrew 2241H.					
6999 Research in Japanese: Thesis	G	1 - 3	2245 Israeli Film & Society	U	3
Research leading to the completion of an MA thesis.					
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			A survey of Israeli films from 1948 to the present day, tracing the development of film production in Israel as well as the relationship between film and society.		
Prereq: English 1110 (110). Not open to students with credit for Hebrew 2245 (245). GE VPA course. Cross-listed in Hebrew.					
7384 Japanese Syntax	G	3	2367 Jewish-American Voices in U.S. Literature	U	3
Discussion of the grammatical structures of Japanese; presentation of syntactic rules.					
Prereq: 6380. Not open to students with credit for 784.			Introduction to Jewish-American literature; development of expository writing and argumentation skills through systematic and critical reflection upon their own country from the perspective of an ethnic community.		
Prereq: English 1110 (110). Not open to students with credit for Hebrew 2245 (245). GE VPA course. Cross-listed in Hebrew.					
7388 Japanese Language Acquisition	G	3	2450 Ancient and Medieval Jewish History, 300 BCE-1100 CE	U	3
Discussion of Japanese language acquisition studies.					
Prereq: 6380, or permission of instructor. Not open to students with credit for 788.			Introduction to the history of Jewish communities, religion, and culture in the Near East from the Greco-Roman period to the First Crusade.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2242, Hebrew 2241 (241), or 2241H (241H). GE cultures and ideas and diversity global studies course. Cross-listed in History.					
7451 Studies in Japanese Poetry	G	3	2451 Medieval and Early Modern Jewish History, 700-1700 CE	U	3
Critical studies in Japanese poetry; survey of poetic forms, techniques, and aesthetics; concentration on a specific collection, poet, or coterie; topic varies.					
Prereq: 5111 and 5454; or 5455 or 5456; or permission of instructor. Repeatable to a maximum of 9 cr hrs.			Introduction to the history of Jewish communities, religion, and culture in Europe during the Medieval and Early Modern periods.		
Prereq: English 1110 (110) or equiv. Not open to students with credit for Yiddish 2367 (367). GE writing and comm course: level 2 and cultures and ideas course. Cross-listed in Yiddish.					
7453 Studies in Japanese Drama	G	3	2452 Modern Jewish History 1700 - Present	U	3
History and texts of Japan's dramatic literature; noh, kyogen, bunraku, kabuki, shingeki; topic varies.					
Prereq: 5111 or 5112; 5454, 5455, or 5456; or permission of instructor. Repeatable to a maximum of 6 cr hrs.			Study of the history of Jewish communities and Judaism from the early modern period to the early 21st century.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2452 (330.02). GE historical study course. Cross-listed in History.					
8387 Topics and Problems in Japanese Linguistics	G	3	2453 History of Zionism and Modern Israel	U	3
A detailed investigation of specific problems in the phonological, syntactical, and/or lexical analysis of the Japanese language.					
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.			The history of Zionist movement and the modern state of Israel from beginnings to present.		
Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for History 2453 (334). GE historical study course. Cross-listed in History.					
8500 Japanese Bibliography and Research Methods	G	3	2454 History of Anti-Semitism	U	3
Problems and procedures in the use of Japanese bibliographies and other reference materials, including electronic sources.					
Prereq: 5102.1 or equivalent; or permission of instructor. Not open to students with credit for 800.			Study of the development of anti-Semitism, the history of anti-Semitic ideologies and practices, and different Jewish responses to anti-Semitism over time.		
Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for History 2454 (333). GE historical study course. Cross-listed in History.					
8897 Departmental Seminar	G	1 - 3	2455 Jews in American Film	U	3
Seminar in Japanese literature, linguistics, or pedagogy; topic varies.					
Prereq: 5111 or 5112; or 5454, 5455, or 5456; or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.			A study of how modern Jews appear in film compared with historical reality.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2455 (332). GE historical study course. Cross-listed in History.					
8998 Research in Japanese: Project	G	1 - 3	2475 History of the Holocaust	U	3
Research leading to the completion of a project other than a conventional dissertation.					
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			Study of the state-sponsored murder of millions of Jews and non-Jews by the Nazis and their collaborators during World War II.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for History 2475 (331). GE historical study course. Cross-listed in History.					
8999 Research in Japanese: Dissertation	G	1 - 3	2516 The Medieval Jewish Experience	U	3
Research leading to the completion of a dissertation.					
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 7 completions. This course is graded S/U.			A survey of ten centuries of medieval Jewish culture from the rise of Islam to the death of Shabbetai Zvi, the false Messiah (1676).		
Prereq: English 1110 (110). Not open to students with credit for Hebrew 2205 (345). GE VPA course. Cross-listed in Hebrew.					

Jewish Studies

2194 Group Studies	U	1 - 3	2201 Introduction to Jewish Culture, Thought, and Practice	U	3
An investigation of a particular topic in Jewish Studies through readings, discussion and scheduled class meetings. The topic will vary from semester to semester and is based on emerging interests of students and faculty in Jewish Studies.					
Prereq: Permission of instructor.			Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for History 2201 (216). GE cultures and ideas and diversity global studies course. Cross-listed in History.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for History 2201 (216). GE cultures and ideas and diversity global studies course. Cross-listed in History.					
2205 Art and Ancient Judaism	U	3	2205 Art and Ancient Judaism	U	3
An exploration of the nature and function of art in ancient Judaism from the standpoints of history, cultural history, and material culture.					
Prereq: English 1110 (110). Not open to students with credit for Hebrew 2205 (345). GE VPA course. Cross-listed in Hebrew.			Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for History 2205 (345). GE cultures and ideas and diversity global studies course. Cross-listed in History.		
Prereq: English 1110 (110). Not open to students with credit for Hebrew 2205 (345). GE VPA course. Cross-listed in Hebrew.					

2700 Biblical and Post-Biblical Hebrew Literature in Translation	U 3	3505 U.S. Diplomacy in the Middle East	U 3
Reading and analysis of selected chapters from the Hebrew scriptures and post-biblical Hebrew writings representative of major historical, cultural, and literary trends.		Survey of U.S. foreign policy in the Middle East emphasizing the Cold War, Arab-Israeli conflict, Iran, and wars against Iraq. Sometimes this course is offered in a distance-only format.	
Prereq: English 1110 (110). Not open to students with credit for 2700H, Hebrew 2700 (270), or 2700H (370H). GE lit and diversity global studies course. Cross-listed in Hebrew.		Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for History 3505. GE historical study and diversity global studies course. Cross-listed in History.	
2700H Biblical and Post-Biblical Hebrew Literature in Translation	U 3	4191 Jewish Studies Internship	U 1 - 3
Reading and analysis of selected chapters from the Hebrew scriptures and post-biblical Hebrew writings representative of major historical, cultural, and literary trends.		Community work with agencies and organizations serving the Jewish population. Evaluation of policy decisions from a Jewish perspective.	
Prereq: Honors standing, and English 1110 (110); or permission of instructor. Not open to students with credit for 2700, Hebrew 2700 (370), or 2700H (370H). GE lit and diversity global studies course. Cross-listed in Hebrew.		Prereq: 2201, and 9 sem cr hrs in JewishSt; or permission of instructor. Repeatable to a maximum of 3 cr hrs or 2 completions. This course is graded S/U.	
2702 Modern Hebrew Literature in Translation	U 3	4798.02 History and Culture of Israel: Study Tour	U 3
A survey of major themes and topics in Modern Hebrew literature from the middle of the 19th century to the present.		Introduces the dynamics of the current Middle East peace process against the backdrop of the richness and diversity of contemporary Israeli society and culture. Students will read material pertaining to the Middle East peace process, attend and participate in lectures/discussions with instructors during May semester, and take part in a study tour of Israel through OSU OIA. GE education abroad course.	
Prereq: English 1110 (110). Not open to students with credit for 2702H, Hebrew 2702 (372), or 2702H (372H). GE lit and diversity global studies course. Cross-listed in Hebrew.		4999H Thesis Research	U 1 - 3
2702H Modern Hebrew Literature in Translation	U 3	A program of readings and empirical investigation of topics arranged on the basis of individual student interests. The course will entail individual conferences with faculty, reports, and honors thesis. An advanced independent study option.	
A survey of major themes and topics in Modern Hebrew literature from the middle of the 19th century to the present.		Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.	
Prereq: Honors standing, and English 1110 (110); or permission of instructor. Not open to students with credit for JewishSt 2702, Hebrew 2702 (372), or 2702H (372H). GE lit and diversity global studies course. Cross-listed in Hebrew.		5194 Group Studies	U G 1 - 3
2703 Prophecy in the Bible and Post-Biblical Literature	U 3	An investigation of a particular topic in Jewish Studies through readings, discussion and scheduled class meetings. The topic will vary from semester to semester and is based on emerging interests of students and faculty in Jewish Studies	
The dynamics of Israelite prophecy and apocalyptic in the context of ancient Near Eastern culture.		Prereq: 2201 or 2194, or permission of instructor. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.	
Prereq: English 1110 (110). Not open to students with credit for Hebrew 2703 (373). GE lit and diversity global studies course. Cross-listed in Hebrew.		5797 Study at a Foreign Institution	U G 1 - 9
2704 Women in the Bible and Beyond	U 3	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State University Fees and any fees in excess of Ohio State tuition as well as all travel and subsistence costs.	
An examination of the social, legal, and religious position of women as they appear in the Hebrew Bible and the ways in which they have been represented and interpreted in later textual, visual, and audio sources.		Prereq: Written Permission of Melton Center Director. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded (S/U).	
Prereq: English 1110 (110). Not open to students with credit for Hebrew 2704 (374). GE lit and diversity global studies. Cross-listed in Hebrew.		Kinesiology	
2708 Biblical and Post-Biblical Wisdom Literature	U 3		
An examination of the various ideas, themes, attitudes, implications, and genres of biblical and post-biblical wisdom literature.		1263 Special Issues Affecting Contemporary Student-Athletes	U 3
Prereq: English 1110 (110). Not open to students with credit for Hebrew 2708 (378). GE lit and diversity global studies. Cross-listed in Hebrew.		An exploration of current topics and problems concerning collegiate athletes and the decision-making skills needed to facilitate college adjustment.	
3111 Introduction to Jewish Philosophy	U 3	Prereq: Fresh or Soph standing, and permission of instructor. Not open to students with credit for EduPAES 263. This course is graded S/U.	
A general introduction to major figures and trends in medieval, modern, and contemporary Jewish philosophy; emphasis on Philo, Saadia, Maimonides, Spinoza, Mendelsohn, and Buber.		2221.01 Sports Officiating: Baseball	U 1
Prereq: Not open to students with credit for Philos 3111 (321). GE cultures and ideas course. Cross-listed in Philos.		Study of playing rules, rule interpretation, techniques, and mechanics of officiating interscholastic and intercollegiate baseball. Satisfactory evidence of playing skill in the elected athletic sport.	
3210 The Jewish Mystical Tradition	U 3	Prereq: Not open to students with credit for EduPAES 221.01.	
The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience.		2221.02 Sport Officiating: Basketball	U 1
Prereq: English 1110 (110). Not open to students with credit for 2210, 2210H, 3210H, RelStd 2210, 3210, 2210H, 3210H, CompStd 2210 (376), 2210H (376H), Hebrew 2210 (376), 3210, 2210H (376H), or 3210H. GE cultures and ideas and diversity global studies course. Cross-listed in RelStd and Hebrew.		Study of playing rules, rule interpretation, techniques, and mechanics of officiating interscholastic and intercollegiate basketball. Satisfactory evidence of playing skill in the elected athletic sport is required.	
3210H The Jewish Mystical Tradition	U 3	Prereq: Not open to students with credit for EduPAES 221.02.	
The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience.		3315 Positive Transitions for Intercollegiate Student-Athletes	U 2
Prereq: Honors standing, and English 1110 (110). Not open to students with credit for 2210, 3210, 2210H, CompStd 2210 (376), 2210H (376H), Hebrew 2210 (376), 3210, 2210H (376H), 3210H, RelStd 2210, 3210, 2210H, or 3210H. GE cultures and ideas and diversity global studies course. Cross-listed in RelStd and Hebrew.		Addresses transitional issues unique to intercollegiate student-athletes. Students will learn appropriate developmental "Life Skills" needed to facilitate their personal and career adjustment.	
3371 Yiddish Literature in Translation	U 3	Prereq: Jr or Sr standing; or instructor permission. Not open to students with credit for EduPAES 315. This course is graded S/U.	
Reading, analysis, and discussion of representative works and of the development of major movements and genres in Yiddish literature.		4998 Research: Kinesiology	U 1 - 12
Prereq: Not open to students with credit for Yiddish 3371 (371). GE lit and diversity global studies. Cross-listed in Yiddish.		Independent study related to research in Kinesiology: Health and Exercise Science, Physical Education, or Sport Industry.	
3455 Jewish Life from the Renaissance to the Early Enlightenment	U 3	Prereq: Open only to Kinesio majors, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.	
Life and thought of European and Mediterranean Jews in the early modern period.		4998H Research: Honors in Kinesiology	U 2 - 3
Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 3455. GE historical study course. Cross-listed in History.		A program of accelerated study for students with special aptitudes.	
3470 Messiahs and Messianism in Jewish History	U 3	Prereq: Honors standing and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.	
The history of Jewish messianic ideas and of Jewish messianic leadership from ancient to modern times.		5194 Group Studies: Kinesiology	U G 1 - 15
Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for History 3470 (531.01). GE historical study course. Cross-listed in History		Special Topics related to issues in Kinesiology.	
		Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.	

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6100 Race, Gender and Culture in Sports	G 3	4490 Graded Exercise Testing	U 1
Provides students with knowledge, understanding, and experiences related to the following topics in sport: ethnicity and race, gender, culture, religion, and language, participation and socialization, social theories, and critical race and social justice theories.			
6101 Ethics of Coaching	G 3	4525 Promoting Behavior Change in Sport, Leisure, & Exercise	U 3
Examines ethical and moral issues that are central to coaching in contemporary sport setting and address the way in which we should treat human beings in sports settings. Issues such as fairness, equality, integrity, and sport's purpose will be discussed and questions of an ethical and moral nature.			
6891 Kinesiology Graduate Core Course I	G 3	This course introduces students to theories, mediators, and behavior change strategies applied to sport, leisure, and exercise settings and provides knowledge and opportunities to develop skills to promote adoption and adherence to physical activity.	
Introduction to graduate study in Kinesiology with an emphasis on becoming a successful doctoral student and scholar. Prereq: Grad standing in Kinesiology, or permission of instructor.			
6892 Kinesiology Graduate Core Course II	G 3	Prereq: Admission to major in Exercise Science Education; Sport Industry; Human Nutrition; Health Promotion, Nutrition and Exercise Science; or Physical Education, Sport, and Physical Activity. Not open to students with credit for EduPAES 525.	
7100 Mental Preparation and Performance in Sport	G 3	5191 Internship: Health and Exercise Science	U G 12
Examination of psychological theories and research related to mental preparation and performance in sport. An introduction to the field which will provide broad overview of the major topics in the area.			
7102 Science of Physical Activity and Nutrition for Coaches	G 3	Prepares students to assume career-related responsibilities in Health and Exercise Science by providing a practical extended experience under the supervision of an exercise science professional.	
Examines the primary human physiological systems and their response to acute and chronic exercise stimuli, as well as the effects of training and physical activity on health, fitness and athletic performance. The role of nutrition in health and various sport types will be examined with a focus on mainstream current recommendations.			
7103 Research Skills for Coaches	G 3	Prereq: 4490 or EduPAES 4490, and enrollment in Exercise Science Education major; or enrollment in master's program in Kinesiology, Health & Exercise Science concentration. This course is graded S/U.	
7104 Proseminar for Coaches	G 3	5194 Group Studies: Health and Exercise Science	U G 1 - 12
This proseminar focuses on the development of knowledge, abilities, and dispositions necessary for effective, participative, and productive leadership in coaching settings. Topics covered in this course include leadership skills, interpersonal relationships, organizational membership, branding, the relationship between the sporting team and the community. Repeatable to a maximum of 6 cr hrs.			
7730 Endocrinology	G 4	Group study in HES.	
Functional principles of the major endocrine systems in vertebrates and preparation for research in this area. Prereq: Biochem 4511 (511), or permission of instructor. Not open to students with credit for VetBios 730. Cross-listed in AnimSci.			
7999 Research: Thesis	G 1 - 6	Prereq: Open only to Exercise Science Education majors; permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.	
8189 Practicum in Kinesiology	G 1 - 6	5491 Body Composition Evaluation	U G 1
Practicum study hours in Kinesiology. Prereq: Admission to Kinesiology graduate program, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			
Kinesiology: Health and Exercise Science			
2360 Kinesiology	U 4	5492 Muscular Strength and Anaerobic Power Testing	U G 1
The mechanics of the musculoskeletal system, both <i>in vitro</i> and <i>in vivo</i> , as they relate to the generation and maintenance of human movement. Prereq: Not open to students with credit for EduPAES 360 and 361.			
3193 Independent Study: Health and Exercise Science	U 1 - 12	Includes practical experiences in the understanding and application of muscular strength and anaerobic power testing. Experience in explanation, motivation of clients and evaluation of the results with application will be included.	
Independent study in Health and Exercise Science. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
3209 Orientation to Exercise Science	U 1	Prereq: Jr standing, and proof of CPR First/AID certification. Not open to students with credit for EduPAES 490.12.	
The purpose of this course is to introduce HES majors to the depth and breadth of careers in exercise science and to develop professional and research qualifications and experiences that will foster success now and after graduation. Prereq: Admission to Exercise Science Education Major. Not open to students with credit for EduPAES 209.			
3414 Applied Exercise Physiology	U 3	5493 Fitness Program Development and Evaluation: Older Adult Exercise Prescription	U G 1
Examines the primary human physiological systems and their response to acute and chronic exercise stimuli. Prereq: Admission to HPNES major and EEOB 2520. Another set of options includes admission to Exercise Science major; and Physio 3200, or 3201 and 3202. Not open to students with credit for EduPAES 414 or 514.			
5500 Science of Physical Activity for Health Care Professionals	U G 4	Includes practical experiences with facilitated understanding in the assessment, development, delivery and evaluation in the area of individualized fitness and wellness programs.	
Examines the primary human physiological systems and their response to acute and chronic exercise stimuli, as well as the effects of training and physical activity on health, fitness and human performance. Prereq: Jr standing or above. Not open to students with credit for EduPAES 500.			
5590 Comprehensive Laboratory in Exercise Science	U G 3	5590 Comprehensive Laboratory in Exercise Science	U G 3
This course provides practical experiences in comprehensive fitness testing, fitness evaluation and the development of training programming for the healthy adult and older adult populations. This course will focus on measuring and evaluating components of health related fitness, which include: cardiorespiratory system, body composition, muscular strength, muscular endurance, and flexibility. Prereq or concr: KnHES 5685, and Jr, Sr, or Grad standing. Repeatable to a maximum of 6 cr hrs.			
5651 Health Program Planning	U G 3	5651 Health Program Planning	U G 3
The social, epidemiologic, behavioral and educational foundations of health promotion will be reviewed. Skills in: needs assessment, program planning, and program implementation will be developed. Prereq: Not open to students with credit for EduPAES 651.			
5652 Worksite Health Promotion	U G 3	5652 Worksite Health Promotion	U G 3
Effective health promotion practice at the workplace. Skills: health needs assessment, health program decision-making, reviewing educational / health behavior literature, health behavior program planning, implementation, and evaluation. Prereq: Not open to students with credit for EduPAES 652.			
5685 Adult Exercise Programming-Implementation	U G 4	5685 Adult Exercise Programming-Implementation	U G 4
Introduction to adult exercise training and evaluation methods; emphasis on the implementation of programs for the normal healthy adult. Prereq: 3414 or EduPAES 3414. Not open to students with credit for EduPAES 685.			
5703 Health Behavior Theory	U G 3	5703 Health Behavior Theory	U G 3
Critical analysis of Health Behavior Theory. Review of professional literature on development and evaluation of theory based, health behavior change interventions. Prereq: 5652 (EduPAES 5652 (652)) or 5651 (EduPAES 5651 (651)); or grad standing. Not open to students with credit for EduPAES 703.			

Kinesiology: Health and Exercise Science

2360 Kinesiology	U 4	5651 Health Program Planning	U G 3
The mechanics of the musculoskeletal system, both <i>in vitro</i> and <i>in vivo</i> , as they relate to the generation and maintenance of human movement. Prereq: Not open to students with credit for EduPAES 360 and 361.			
3193 Independent Study: Health and Exercise Science	U 1 - 12	5652 Worksite Health Promotion	U G 3
Independent study in Health and Exercise Science. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
3209 Orientation to Exercise Science	U 1	5685 Adult Exercise Programming-Implementation	U G 4
The purpose of this course is to introduce HES majors to the depth and breadth of careers in exercise science and to develop professional and research qualifications and experiences that will foster success now and after graduation. Prereq: Admission to Exercise Science Education Major. Not open to students with credit for EduPAES 209.			
3414 Applied Exercise Physiology	U 3	5703 Health Behavior Theory	U G 3
Examines the primary human physiological systems and their response to acute and chronic exercise stimuli. Prereq: Admission to HPNES major and EEOB 2520. Another set of options includes admission to Exercise Science major; and Physio 3200, or 3201 and 3202. Not open to students with credit for EduPAES 414 or 514.			

Kinesiology: Health and Exercise Science 265

5704	Health Program Evaluation	U G 3
Methods for evaluating health behavior interventions. Skills to conduct process, impact and outcome evaluations including data analysis will be developed. The political, educational and theoretical aspects of evaluation practices are covered.		
Prereq: 5652 (EduPAES 5652 (652)) or 5651 (EduPAES 5651 (651)); or Grad standing. Not open to students with credit for EduPAES 704.		
7713		
Foundations of Physical Activity Behavior	G 3	
Addresses the basic conceptual, methodological, and applied considerations in physical activity behavior.		
Prereq: Not open to students with credit for EduPAES 713.		
7714	Advanced Physiology of Exercise	G 4
Examines the physiological responses and adaptations to the demands and stresses of physical activity and exercise in humans and animals.		
Prereq: Not open to students with credit for EduPAES 714.		
7720	Measurement in Physical Activity Behavior	G 3
Addresses basic and advanced considerations in the measurement of physical activity behavior.		
Prereq: Not open to students with credit for EduPAES 720.		
7726	Changing Physical Activity Behavior	G 3
Introduction to theoretical foundations and research base of physical activity behavior.		
Demonstration of skills in analyzing and implementing appropriate methodologies for exercise behavior research and interventions for individuals and groups.		
Prereq: Not open to students with credit for EduPAES 726.		
7896	Colloquium: Health and Exercise Science	G 1 - 10
A forum for exercise science graduate students to present research proposals and results.		
Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
8193	Advanced Individual Studies: Health and Exercise Science	G 1 - 12
Advanced independent study in Health and Exercise Science.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
8803	Seminar in Exercise Metabolism	G 3
Graduate seminar focusing on researching in the field of contemporary exercise metabolism.		
Prereq: Permission of instructor. Not open to students with credit for EduPAES 802.02.		
8804	Skeletal Muscle Structure, Function, and Plasticity	G 3
Devoted to the format of a graduate seminar. You will be responsible for researching a specific topic area in the field of contemporary skeletal muscle physiology.		
Prereq: Not open to students with credit for EduPAES 802.04.		
8998	Research: Health and Exercise Science	G 1 - 12
Research topics to be determined through discussion with adviser.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
8999	Dissertation/Thesis Research: Health and Exercise Science	G 1 - 9
Provides graduate students the opportunity to develop and conduct basic and applied health and exercise science research required for the completion of a thesis or dissertation.		
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.		

Kinesiology: Physical Education

1208	Orientation to Sport and Leisure Studies	U 3
Vocational opportunities, vocational preparation, and significant issues and information associated with sports, recreation and leisure, fitness, and physical education.		
Prereq: Not open to students with credit for EduPAES 208.		
2201		
Concepts of Fitness and Wellness	U 3	
Focuses on teaching physical fitness and wellness concepts to support instruction in schools and other settings such as community health organizations.		
2262	Coaching the Young Athlete	U 3
Skills and knowledge to coach young athletes.		
2301	Teaching Invasion Games	U 3
Prepares students to teach invasion games in educational settings.		
Prereq: Not open to students with credit for EduPAES 301.		
2307	Adventure Based Learning	U 3
Acquisition of performance skills including philosophy, facilitation techniques, and safety of adventure based learning activities and their roles in different settings.		
Prereq: Not open to students with credit for EduPAES 307.		
2542	Lifespan Motor Development	U 3
An overview of the processes involved in motor development and physical growth across the lifespan. Implications of growth and development to teaching, coaching, and clinical settings will be examined.		
Prereq: Not open to students with credit for EduPAES 542.		

2601	Teaching Physical Education, Leisure and Exercise	U 3
Designed to teach effective pedagogical and managerial skills for school, recreation and exercise settings.		
Prereq: Not open to students with credit for EduPAES 601.		
2620.01		
Coaching Baseball	U 2	
Study in the theory, strategy, and mechanics of coaching interscholastic; intercollegiate baseball. Advanced skill level in the elected sport is required to take this course.		
Prereq: Jr standing, or permission of instructor. Not open to students with credit for EduPAES 620.01.		
2620.02		
Coaching: Basketball	U 2	
Study in the theory, strategy, and mechanics of coaching interscholastic: intercollegiate basketball. Advanced skill level in the elected sport.		
Prereq: Jr standing, and permission of instructor. Not open to students with credit for EduPAES 620.02.		
2620.04		
Coaching: Football	U 2	
Study in the theory, strategy, and mechanics of coaching interscholastic; intercollegiate football. Advanced skill level in the elected sport.		
Prereq: Jr standing. Not open to students with credit for EduPAES 620.04.		
3189	Field Experience in Elementary Physical Education	U 3
This field experience develops knowledge of elementary learners, schools, curriculum, pedagogy, pedagogical content knowledge, and assessment.		
Concur: 3740. Admission to PETE undergraduate major or permission of the instructor. Not open to students with credit for EduPAES 689.01.		
3193	Independent Study: Physical Education, Sport & Physical Activity	U 1 - 12
Advanced independent study in physical education.		
Prereq: Enrollment in Physical Education, Sport & Physical Activity major, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
3302	Teaching Racquet Sports	U 3
Prepares students to teach racquet sports in educational settings.		
Prereq: Admission to the PESPA major, coaching education minor or physical activity specialist minor. Not open to students with credit for EduPAES 302.		
3305	Teaching Court Games	U 3
Prepares students to teach court games in educational settings.		
Prereq: Pre-major or major in PESPA, and coaching education minor or physical activity specialist minor. Not open to students with credit for EduPAES 305.		
3520	Content in Lower Elementary Physical Education	U 3
An indepth analysis of the content and instruction of an lower elementary school Physical Education curriculum. Students will develop skills and knowledge in developmentally appropriate content in elementary physical education.		
Prereq: Admission to a Physical Education teacher Education major. Not open to students with credit for EduPAES 520.		
3521	Content in Upper Elementary Physical Education	U 3
An indepth analysis of the content and instruction of the upper elementary school physical education curriculum. Students will develop skills and knowledge in developmentally appropriate content in elementary physical education.		
Prereq: Admission to the PESPA major.		
3740	Teaching Physical Education in Elementary Schools	U 3
Provides pedagogical content knowledge in physical education at the elementary school level, and provide the opportunity to apply this knowledge in an elementary school environment.		
Prereq: Admission to PETE undergraduate major, or permission of instructor. Concur: 3189. Not open to students with credit for EduPAES 740.		
4189.02	Field Experience in Secondary Physical Education	U 3
This field experience develops knowledge of secondary learners, schools, curriculum, pedagogy, pedagogical content knowledge, and assessment.		
Concur: 4741. Admission to PETE undergraduate major or permission of the instructor. Not open to students with credit for EduPAES 689.02.		
4189.30	Practicum in K-12 Health Education	U 3
An advanced field experience designed to give practice in teaching K-12 health education in schools.		
Prereq: 4743 or EduPAES 4743, or permission of instructor.		
4191	Physical Activity and Coaching Internship	U 1 - 15
Internship in Physical Activity and Coaching.		
Prereq: Enrollment in the Physical Education, Sport, and Physical Activity major and Physical Activity and Coaching Specialist specialization. Repeatable to a maximum of 15 cr hrs.		
4191.01	Internship: Elementary Physical Education	U 6
Observation, participation, and responsible teaching in an elementary school setting.		
Prereq: 4780, admitted to PETE undergraduate major, and GPA 2.75 or above. Not open to students with EduPAES 786.		

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4191.02 Internship: Secondary Physical Education	U	6	7754 Advanced Motor Development and Learning	G	3
Observation, analysis, and teaching in a public secondary school; dual and three-way conferences with supervisor and cooperating teacher.			Physical growth and motor skill acquisition from infancy to adolescence. Principles of motor learning. Application of content to teaching, coaching, and clinical settings.		
Prereq: Admitted to PETE undergraduate major and GPA 2.75 or above. Concur: 4780. Not open to students with credit for EduPAES 787.			Prereq: Not open to students with credit for EduPAES 754 or 851.		
4489.05 Advanced Field Experience: Interscholastic Coaching	U	2 - 6	7863 Teaching Health and Fitness Courses at the College Level	G	3
Directed coaching experience.			Enhances the preparation of students to teach health and fitness courses at the college level.		
Prereq or concur: 4643, and admission to Kinesiology major or Coaching Education minor; or permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.			Prereq: Admission to PETE or PA Grad program, or permission of instructor. Not open to students with credit for EduPAES 863.		
4741 Teaching Physical Education in Secondary Schools	U	3	7868 Research on Teaching in Physical Education	G	3
The purpose of this course is to provide pedagogy and pedagogical content knowledge in physical education at the secondary school.			Provides students with a basis for understanding three decades of research in this area. The student will develop competencies as a consumer of educational research and practice and as a teacher educator.		
Prereq: Admission to PETE undergrad major or permission of instructor. Not open to students with credit for EduPAES 741.			Prereq: Admission to PETE or PA Grad program, or permission of instructor. Not open to students with credit for EduPAES 868.		
4743 Teaching Health Education in Elementary, Middle and High Schools	U	3	7897 Special Topics: Physical Education, Sport & Physical Activity	G	3
Methods for the teaching of comprehensive school health education (CSHE) in elementary, middle, and high schools. It is required for the teacher licensure program in health education teachers.			This professionally focused course examines contemporary issues in curriculum and instruction in physical education. The course is designed to be flexible and the content changes to reflect the current changes in the field of physical education.		
4780 Seminar for Student Teaching	U	2	Repeatable to a maximum of 15 cr hrs.		
Seminar designed to connect students' school-based internship experiences with pedagogical knowledge through discussions and reflections about teaching physical education.			8193 Advanced Individual Studies: Physical Education, Sport & Physical Activity	G	1 - 12
Prereq: admission to PETE undergrad major and GPA 2.75 or above. Concur: 4191.01 and 4191.02. Not open to students with credit for EduPAES 780.			Advanced independent study course in physical education or adapted physical education.		
5194 Group Studies: Physical Education, Sport & Physical Activity	U G	1 - 12	Prereq: Admission to Kinesiology graduate program, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
Group study in Physical Education.			8865 Advanced Socio-cultural issues in Physical Education	G	3
Prereq: Open only to Physical Education, Sport & Physical Activity majors, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			Examines issues of gender, race, health, class, disability, religion, and homophobia within the context of physical education and physical education teacher education.		
5521 Qualitative Skill Analysis	U G	3	Prereq: Admission to Grad program in Physical Education, or permission of instructor. Not open to students with credit for EduPAES 865.		
Provides students with the knowledge and skills required to successfully conduct a qualitative analysis of skills and instructional tasks and develop teaching progressions.			8870 Research on Teaching	G	3
Prereq: Grad standing, admission to the PESPA pre-major, major, coaching education minor, or physical activity specialist minor. Not open to students with credit for EduPAES 521.			Examines the process, products, and ecological paradigms in educational research from their beginnings in the 1970s to the present day.		
5544 Introduction to Adapted Physical Activity	U G	3	Prereq: Grad standing in Kinesiology, or permission of instructor. Not open to students with credit for EduPAES 870.		
Introduction to adapted physical activity across school, community, and clinical settings.			8872 Advanced Study in Adapted Physical Education	G	3
Prereq: Major in the College of EHE, or permission of instructor. Not open to students with credit for EduPAES 544.			Provides students the opportunity to study advanced topics essential to Adapted Physical Education.		
5643 Coaching Effectiveness	U G	3	Prereq: Admission to Grad major in Kinesiology, or permission of instructor. Not open to students with credit for EduPAES 872.		
This course is designed to introduce students to effective coaching strategies and practices.			8891 Doctoral Seminar in Physical Education	G	3
Prereq: Enrollment in undergraduate Physical Activity Specialist Strand of PESPA major or Coaching Education minor. Not open to students with credit for EduPAES 643.			Seminar that examines the theoretical, methodological, and practical aspects of research in the physical education field. Specific content of the course will vary from semester to semester.		
5657 Sport and Disability	U G	3	Prereq: Enrollment in the Kinesiology Ph.D. program, or permission of instructor. Repeatable to a maximum of 18 cr hrs.		
Overview of sport for individuals with disabilities with emphasis given to physiological, psychological, and socio-cultural perspectives.			8892 Research Seminar in Physical Education Teacher Education	G	3
Prereq: Undergrad or Grad major in EHE; or coaching education minor; or interdisciplinary disability studies minor and graduate specialization; or physical activity specialist minor. Not open to students with credit for EduPAES 657.			Research seminar designed to enhance students' knowledge on current experimental techniques, theories and models of physical education, sport and physical activity with an emphasis on preparing physical education teachers.		
5676 Programming for Severe Physical Impairments	U G	3	Prereq: Enrollment in the Ed.D. in Kinesiology or Physical Education Concentration, or permission of instructor. Repeatable to a maximum of 18 cr hrs.		
Considerations related to the physical, motor and fitness needs of individuals with severe physical impairments within a physical activity context.			8998 Research: Physical Education, Sport & Physical Activity	G	1 - 12
Prereq: Ugrd or Grad standing in EHE, or permission of instructor.			Examines the process product, mediating product, and ecological paradigms in educational research from their beginnings in the 1970's to the present day.		
5709 Schools, Curriculum and Physical Education	U G	3	Prereq: Grad standing in Physical Education, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
Examines the role of physical education within the social, historical, and philosophical foundations of education in the United States. We examine curriculum as a mechanism for the operationalization of different educational values and philosophies both as a theoretical exercise and as practice.			8999 Dissertation/Thesis Research: Physical Education, Sport & Physical Activity	G	1 - 6
Prereq: 2601 or EduPAES 2601, or Grad standing.			Dissertation research in physical education or adapted physical education.		
5795 Socio-Cultural Issues in Physical Education	U G	3	Prereq: Admission into Kinesiology graduate program, and permission of the instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.		
Provides students with knowledge, understanding, and experience related to various socio-cultural issues within the physical education setting.					
Prereq: Enrollment in PESPA major, coaching minor, physical activity specialist minor, PE Grad program, or permission of instructor. Not open to students with credit for EduPAES 795.					
5975 Exploring Japan through Sport, Wellness and Culture	U G	3			
The Exploring Japan through Sport, Wellness and Culture course is designed to provide students with hands on, experiential activities that will foster an understanding of Japan and Japanese culture. Prior leaving for Japan, students will be exposed to the Japanese language and customs through lectures at Ohio State. Students will then participate in a two-week experience in Japan that will include participating in the Tsukuba Summer Institute (8 days) plus cultural excursions to Tokyo, Tsukuba Shrine, and Nikko. Enrollment preference given to Physical Education, Sport and Physical Activity majors.					
Repeatable to a maximum of 6 cr hrs.					

Kinesiology: Sport, Fitness, and Health Program

1102 First Aid and CPR	U	2
Necessary skills to sustain life, reduce pain, and minimize consequences of injury/illness during an emergency. Course is designed to lead to Certification. Lab fees required.		
Prereq: Not open to students with credit for EduPAES 102.		
1103 Introduction to Health and Wellness in American Society	U	2
A study of student health problems; designed to foster understandings and attitudes needed for intelligent decision-making related to present and future health needs.		

1104 Stress Management for the College Student	U 2	
This course is designed to help students learn to identify, understand, prevent and manage stress as it occurs in everyday life. The course has two components: the lecture component will address the cognitive approach to stress management; the lab portion will allow students to experience the fundamentals of yoga and its role in stress reduction in the physical, psychological & spiritual domains.		
1122 Techniques in Cardiopulmonary Resuscitation	U 1	
Development of skills for situations requiring cardiopulmonary resuscitation measures. Completion designed to lead to certification in CPR/Automatic External Defibrillator (AED). All materials provided. Lab fees required.		
Prereq: Not open to students with credit for EduPAES 122.		
1137 Sport for the Spectator	U 2	
The study of various popular spectator sports including football, basketball, baseball, golf, tennis, ice hockey and others.		
Prereq: Not open to students with credit for EduPAES 137.		
1139.01 Introductory Program of Outdoor Pursuits: Scuba II	U 1	
Introduction to fresh water diving. Student responsible for travel and activity costs. Student must provide wetsuit (rentals may be available).		
Prereq: 1179 or EduPAES 1179, or equiv, and permission of instructor. Not open to students with credit for EduPAES 139.01. This course is graded S/U.		
1139.02 Introductory Program of Outdoor Pursuits: Whitewater Rafting	U 1	
Introduction to basic whitewater rafting, including: river reading, paddling techniques, equipment, trip planning, and safety. Student must provide sleeping bag and appropriate clothing for river conditions.		
Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.02. This course is graded S/U.		
1139.03 Introductory Program of Outdoor Pursuits: Backpacking I	U 1	
Introduction to basic backpacking techniques, equipment, wilderness travel, emergency procedures, and environmental awareness. Travel and subsistence costs for activities will be borne by the student. Student must provide sleeping bag and hiking boots.		
Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.03. This course is graded S/U.		
1139.06 Introductory Program of Outdoor Pursuits: Skiing I	U 1	
Beginning skills and knowledge needed for outdoor skiing. Students must provide equipment.		
Prereq: Permission of instructor. This course is graded S/U.		
1139.07 Introductory Program of Outdoor Pursuits: Experimental Sections	U 1	
Activities will be announced and publicized whenever an experimental section is deemed worthy of trial.		
Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.07. This course is graded S/U.		
1139.08 Introductory Program of Outdoor Pursuits: Fly Fishing	U 1	
Introduction to basic materials and methods of fly fishing including choosing and using proper equipment suited for fly fishing in ponds, lakes and rivers in the Midwest.		
This course is graded S/U.		
1139.09 Introductory Program of Outdoor Pursuits: Caving I	U 1	
Introduction to basic caving techniques, equipment, trip planning, and safety; cave related ecology, flora, and fauna will also be emphasized. Travel and subsistence costs for activities will be borne by the student. Student must provide sleeping bag.		
Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.09. This course is graded S/U.		
1139.11 Introductory Program of Outdoor Pursuits: Rock Climbing	U 1	
Basic rock climbing techniques, rope handling, and safety systems will be covered. Must be in good physical condition. Travel and subsistence costs for activities will be borne by the student. Students must provide sleeping bag and climbing equipment.		
Prereq: Not open to students with credit for EduPAES 139.11. This course is graded S/U.		
1139.13 Introductory Program of Outdoor Pursuits: Orienteering	U 1	
The sport of orienteering involving compass skills, map reading, and cross-country travel; cross-country racing in its competitive form. Travel, transportation and subsistence costs for activities will be borne by the student. Compass required.		
Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.13. This course is graded S/U.		
1139.14 Introductory Program of Outdoor Pursuits: Skydiving	U 1	
Introduction to skydiving including techniques, safe practice and strategies. Students will have the opportunity to skydive; however, it is not required to pass the course.		
Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.14. This course is graded S/U.		
1139.18 Introductory Program of Outdoor Pursuits: Hot Air Ballooning	U 1	
Introduction to hot air ballooning. Covers history, design, structure, and flight procedures of the modern balloon. Students crew flights and act as balloon chasers.		
Prereq: Not open to students with credit for EduPAES 139.18. This course is graded S/U.		
1139.21 Introductory Whitewater Kayaking	U 1	
The purpose of this course is to provide the student with the beginning level skills and knowledge in whitewater kayaking. As a result the student will improve his/her general physical fitness and skill performance. Principles, techniques, safe practices and strategies of whitewater kayaking will be taught throughout the course. This is an introductory course for beginners.		
1139.22 Introductory Sea Kayaking	U 1	
To provide the student with the beginning level skills and knowledge in sea kayaking. As a result the student will improve his/her general physical fitness and skill performance. Principles, techniques, safe practices and strategies of sea kayaking will be taught throughout the course. This is an introductory course for beginners.		
This course is graded S/U.		
1140.05 Outdoor Pursuits Program: Lake Erie Sport Fishing	U 2	
Techniques and equipment used in Lake Erie sport fishing featuring Lake Erie angling trips with lectures that include related aquatic science information.		
Prereq: Permission of instructor. Not open to students with credit for EduPAES 140.05.		
1140.07 Outdoor Pursuits Program: Experimental Sections	U 1 - 2	
Activities deemed worthy of developing on an experimental basis; activities will be announced and published when course is offered.		
Prereq: Permission of instructor. Not open to students with credit for EduPAES 140.07.		
Repeatable to a maximum of 6 cr hrs or 3 completions.		
1140.10 Outdoor Pursuits Program: Wilderness First Aid	U 1	
Will train and certify students to cope with basic wilderness hazards and medical emergencies. Upon successful completion of the course students will receive a SOLO WFA completion card valid for 3 years.		
Prereq: Not open to students with credit for EduPAES 140.10. This course is graded S/U.		
1140.11 Wilderness First Responder	U 3	
The Wilderness First Responder course will provide students the knowledge and skills needed to respond to backcountry medical and trauma situations. This is an 80-hr intensive course that meets 8-10 consecutive days between semesters or during a 4-week Session. Upon successful completion students will receive a Wilderness First Responder completion card valid for 3 years. Additional fee required.		
1141.01 Wall Climbing	U 1	
Introduction of basic rock wall climbing techniques including rope handing and safety systems.		
1141.02 Intermediate Wall Climbing	U 1	
To provide the student with intermediate techniques, lead climbing and training concepts of wall climbing.		
Prereq: 1141.01, EduPAES 1141, or equiv.		
1142.01 Archery I	U 1	
Introductory skills and knowledge essential for target shooting.		
Prereq: Not open to students with credit for EduPAES 142.01.		
1143.01 Badminton I	U 1	
Beginning skills and knowledge essential for playing badminton.		
Prereq: Not open to students with credit for EduPAES 143.01.		
1143.02 Badminton II	U 1	
Continuation of 1143.01 with emphasis on advanced strategy in doubles and singles; intermediate skills.		
Prereq: 1143.01 or EduPAES 1143.01, or equiv. Not open to students with credit for EduPAES 143.02.		
1144.01 Basketball Women	U 1	
Skill and strategy necessary for playing basketball.		
Prereq: Limited to women only. Not open to students with credit for EduPAES 144.01.		
1144.02 Basketball Men	U 1	
Skill and strategy necessary for playing basketball.		
Prereq: Limited to men only. Not open to students with credit for EduPAES 144.02.		
1145.01 Bowling I	U 1	
The development of a life-time skill is the primary objective for this course. The skill of bowling, as well as score-keeping, basic courtesies and safety will be taught. Skill and knowledge will be stressed so that through participation of bowling activities there will be enjoyment and competition. This course utilizes an actual bowling alley for the teaching lab.		
Prereq: Not open to students with credit for EduPAES 145.01.		
1145.02 Bowling II	U 1	
The development of a life-time skill is the primary objective for this course. The skill of bowling, as well as score-keeping, basic courtesies and safety will be taught. Skill and knowledge will be stressed so that through participation of bowling activities there will be enjoyment and competition. Advanced shot making, ball rotation, and tournament setup will be learned.		
Prereq: Not open to students with credit for EduPAES 145.02.		
1146 Boxing for Beginners	U 1	
Introductory skills and knowledge necessary for boxing. Light contact sparring only.		
Prereq: Students must provide boxing gloves and mouthguard. Not open to students with credit for EduPAES 146.		

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1147 Principles of Fitness and Wellness	U	2	1153.01 Recreational Dance: Folk and Square Dance I	U	1
Course is designed to introduce students to concepts of wellness which include domains of the physical, social, emotional, spiritual, environmental, occupational, intellectual, and financial. The course will emphasize the relationship between wellness and quality of life over the lifespan. Students will develop a personal program that includes exercise, nutrition, and disease prevention.			Introduction to basic folk and square dance steps and patterns. Prereq: Not open to students with credit for EduPAES 153.01.		
1148.01 Conditioning Activities: Circuit Training	U	1	1154.01 Fencing I	U	1
Students will participate in circuit training which combines strength and cardiovascular endurance activities.			Basic skills and knowledge needed for foil fencing. Prereq: Not open to students with credit for EduPAES 154.01.		
1148.02 Conditioning Activities: Jogging	U	1	1155.01 Physical Fitness Training for the ROTC: Army	U	1
Students will participate in a progressive jogging program in which they will jog from 1-3.5 miles.			Designed to allow ROTC student to demonstrate improvement in overall physical conditioning, body composition, and general health. Prereq: Must be enrolled in Army ROTC. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.		
1148.03 Conditioning Activities: Swimming	U	1	1155.02 Physical Fitness Training for the ROTC: Navy	U	1
Student will participate in a progressive swim conditioning program that culminates in an end-of-the-semester class swim meet.			Designed to allow ROTC student to demonstrate improvement in overall physical conditioning, body composition, and general health. Prereq: Must be enrolled in Navy ROTC. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.		
1148.04 Conditioning Activities: Strength Training	U	1	1156 Flag Football	U	1
Students will participate in a progressive strength and endurance training program using weight machines, free weights, and other strength equipment.			Fundamental skills of flag football. Prereq: Not open to students with credit for EduPAES 156.03.		
1148.05 Conditioning Activities: Cardio Exercise Training	U	1	1157.01 Golf I	U	1
Students will participate in a progressive cardiovascular exercise training program that will utilize popular stationary equipment including treadmills, elliptical machines, cycles, and rowing machines.			Introductory skills and knowledge preparatory to course play with emphasis on driving, putting, and chipping. Prereq: Not open to students with credit for EduPAES 157.01.		
1148.06 Conditioning Activities: Group Fitness	U	1	1157.02 Golf II	U	1
Students will participate in a progressive aerobics program that will include: step, body sculpting, cardio dance, HITT (high intensity interval training) and boot camp style training.			Continuation of 1157.01 with emphasis on introduction to course play. Prereq: 1157.01, or EduPAES 1157.01 or equiv. Repeatable to a maximum of 3 cr hrs.		
1148.07 Conditioning Activities: Pilates	U	1	1157.03 Golf For Business and Life	U	1
Students will participate in a progressive exercise program that utilizes pilates.			Provides the student with an introduction to golf skills, golf rules, etiquette and terms, and golf history. The primary instructor, along with scheduled golf professionals and guest speakers will teach this course. Speakers from business will share what part golf played in their success and how golf can help the students in their business and personal life.		
1148.08 Conditioning Activities: Kickboxing	U	1	1158.01 Tumbling I	U	1
Students will participate in a progressive exercise program that utilizes kickboxing.			Introduction to basic through advanced-basic tumbling skills. Prereq: Not open to students with credit for EduPAES 158.01.		
1150.01 Lifetime Fitness and Wellness Strength Training	U	2	1158.02 Tumbling II	U	1
Online course that promotes principles of fitness and wellness over the lifespan. Prereq: Not open to students with credit for 1147, 1148.04 or 1149.04 1150.02, or EduPAES 1147, 1148.04, 1149.04, 1150.01, 1150.02 or 150.			Introduction to advanced-basic through intermediate tumbling skills. Prereq: 1158.01, or EduPAES 1158.01 or equiv. Repeatable to a maximum of 3 cr hrs.		
1150.02 Lifetime Fitness and Wellness Cardiovascular Exercise Training	U	2	1161.01 Horseback Riding: Western Style I	U	1
Online course that promotes principles of fitness and wellness over the lifespan. Prereq: Not open to students with credit for 1147, 1148.05 or 1149.05, 1150.01, or EduPAES 1147, 1148.05, 1149.05, 1150.01 or 150.			Student will safely halter, lead, groom, saddle, bridle, ride at a walk and jog/canter in the Western riding discipline. Go to go.osu.edulridingclasses to schedule individual riding times. Prereq: Travel and stable costs are responsibility of the student. Not open to students with credit for EduPAES 161.01. This course is graded S/U.		
1151 Strength Training II	U	1	1161.02 Horseback Riding: Western Style II	U	1
Strength and power training; advanced anaerobic and speed conditioning. Prereq: 1148.04 or 1149.04, or EduPAES 1148.04 or 1149.04, or equiv. Repeatable to a maximum of 2 cr hrs or 3 completions.			Student will effectively troubleshoot equipment, walk, jog, or trot without breaking gait, halts on command; learn to canter/lope, and good seat and control. Go to go.osu.eduridingclasses to schedule individual riding times. Prereq: 1161.01, EduPAES 1161.01, or prior experience; travel and stable costs (rental of horse and equipment) for activities must be borne by the student. Not open to students with credit for EduPAES 161.02. This course is graded S/U.		
1152.01 Social Dance I Women	U	1	1161.03 Horseback Riding: Western Style III	U	1
Introduction to basic steps and variations of selected dances such as the foxtrot, waltz, and swing. Limited to women only. Prereq: Not open to students with credit for 1152.01 or EduPAES 1152.01 (152.01).			Student will refine level I and II skills, effectively execute patterns and transitions; identify and explain bits, clean equipment, identify concentrates and roughages (feeding). Go to go.osu.eduridingclasses to schedule individual riding times. Prereq: 1161.02, EduPAES 1161.02, or equiv; travel and stable costs (rental of horse and equipment) for activities must be borne by the student. Repeatable to a maximum of 3 or hrs. This course is graded S/U.		
1152.02 Social Dance I Men	U	1	1161.05 Horseback Riding: English Style I	U	1
Introduction to basic steps and variations of selected dances such as the foxtrot, waltz, and swing. Limited to men only. Prereq: Not open to students with credit for 1152.01 or EduPAES 1152.01 (152.01).			Student will safely halter, lead, groom, saddle, bridle, ride at a walk and jog/canter in the English riding discipline. Go to go.osu.edulridingclasses to schedule individual riding times. Prereq: Travel and stable costs are responsibility of the student. Not open to students with credit for EduPAES 161.05. This course is graded S/U.		
1152.03 Social Dance II Women	U	1	1161.06 Horseback Riding: English Style II	U	1
Continuation of 1152.01 with emphasis on style and technique; introduction to additional social dance contents. Limited to women only. Prereq: 1152.01 or EduPAES 1152.01 (152.01), or equiv. Not open to students with credit for 1152.04, or EduPAES 1152.04 (152.04). Repeatable to a maximum of 3 cr hrs.			Student will effectively access equipment; walk, jog, or trot without breaking gait, halts on command; learn to canter/lope, and good seat and control. Go to go.osu.edulridingclasses to schedule individual riding times. Prereq: Travel and stable costs are responsibility of the student. Not open to students with credit for EduPAES 161.06. This course is graded S/U.		
1152.04 Social Dance II Men	U	1			
Continuation of 1152.02 with emphasis on style and technique; introduction to additional social dance contents. Limited to men only. Prereq: 1152.02, or EduPAES 1152.02, or equiv. Not open to students with credit for 1152.03, or EduPAES 1152.03 (152.03).					
1152.07 Line Dancing	U	1			
To provide the student with basic skill level and knowledge of line dancing. Principles, techniques, safe practices and various types of line dances will be taught throughout the course.					
1152.08 LaBlast Fitness Foundations	U	1			
Introduce students to LaBlast Fitness Foundations basic concepts which is a balance between dance and fitness, based on ballroom dance steps but partner-free. Beginning with basic rhythms for each dance and building on the basic steps, students will learn to combine steps into patterns and combinations for each style of dance. Principles, techniques, safe practice and posture will be covered.					

1161.07 Horseback Riding: English Style III	U	1	1182.02 Lifeguard Training	U	1
Student will refine level I and II skills, effectively execute patterns and transitions; identify and explain bits, clean equipment, be able to explain feeding basics. Go to go.osu.edu ridingclasses to schedule individual riding times.			Designed to lead to ARC Lifeguard Training and CPR for the Professional Rescue certification. Students must provide bathing suit.		
Prereq: 1161.06, or EduPAES 1161.06 or equiv; travel and stable costs (rental of horse and equipment) for activities must be borne by the student. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.			Prereq: 1178.03 or EduPAES 1178.03, or permission of instructor.		
1169.02 Martial Arts Forms: Judo I	U	1	1185.01 Table Tennis I	U	1
Introductory skills and knowledge essential in throwing techniques and mat work of Judo. Prereq: Not open to students with credit for 1169.03, EduPAES 1169.03, or 169.04.			Beginning skills and knowledge essential for playing table tennis with emphasis on the use of backspin and topspin in the singles game.		
Prereq: 1169.02 or EduPAES 1169.02, or equiv. Repeatable to a maximum of 3 cr hrs.			Prereq: Not open to students with credit for EduPAES 185.01.		
1169.03 Martial Arts Forms: Judo II	U	1	1188.01 Tennis I	U	1
Intermediate skills and techniques of Judo as well as an introduction to the skills involved in competitive Judo.			Skills and knowledge essential in playing tennis. Beginning skills; forehand, backhand, and serve-singles play.		
Prereq: 1169.02 or EduPAES 1169.02, or equiv. Repeatable to a maximum of 3 cr hrs.			Prereq: Student must provide racket and 6 balls. Not open to students with credit for EduPAES 188.01.		
1169.04 Martial Arts Forms: Karate I	U	1	1191.01 Volleyball I	U	1
Introduction to the fundamental forms and techniques of Karate.			Introduction to power volleyball.		
Prereq: Not open to students with credit for EduPAES 169.07.			Prereq: Not open to students with credit for EduPAES 191.01.		
1169.06 Martial Arts Forms: Shuai Chiao	U	1	1191.02 Volleyball II	U	1
Introduction to the various forms and techniques of Shuai Chiao-Chinese wrestling, a combination of Karate and Judo.			Continuation of power volleyball fundamental skill perfection and game strategies woven to produce an intermediate playing experience.		
Prereq: Not open to students with credit for EduPAES 169.10.			Prereq: 1191.01, or EduPAES 1191.01, or equiv. Repeatable to a maximum of 3 cr hrs.		
1169.07 Martial Arts Forms: Tae Kwon Do I	U	1	1195.01 Yoga I	U	1
Beginning course in the Korean martial art form; includes etiquette, basic blocking, thrusting and kicking techniques, and self defense.			Introduction to fundamental techniques and basic yogic principles of pranayama (breath control), asana (posture), relaxation, and meditation; emphasis on major postures.		
Prereq: Not open to students with credit for EduPAES 169.13.			Prereq: Not open to students with credit for EduPAES 195.01.		
1169.09 Martial Arts Forms: T'ai Chi Ch'uan I	U	1	1195.02 Yoga II	U	1
An introduction to T'ai Chi Ch'uan with emphasis on an exploration of body/energy awareness.			Asanas (postures) at the intermediate level of Hatha yoga are introduced; continued development and practice of relaxation and meditative techniques; further exploration of yogic philosophy.		
Prereq: Not open to students with credit for EduPAES 169.16.			Prereq: 1195.01, or EduPAES 1195.01, or equiv. Repeatable to a maximum of 3 cr hrs.		
1169.10 Martial Arts Forms: T'ai Chi Ch'uan II	U	1	1196.01 Varsity Squads: Baseball	U	2
Intermediate forms and techniques of T'ai Chi Ch'uan and experience in joint hands operation as well as in combat T'ai Chi Ch'uan.			Participation as a player on an OSU varsity squad.		
Prereq: 1169.09, or EduPAES 1169.09, or equiv. Repeatable to a maximum of 3 cr hrs.			Prereq: Must be a member of the OSU varsity baseball squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
1170.01 Racquetball I	U	1	1196.02 Varsity Squads: Basketball	U	2
Beginning skills and knowledge for students with no prior experience in racquetball.			Participation as a player on an OSU varsity squad.		
Prereq: Not open to students with credit for EduPAES 170.01.			Prereq: Must be a member of the OSU varsity basketball squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
1172.01 Self Defense Women	U	1	1196.03 Varsity Squads: Cross Country	U	2
Skills and understandings essential to defend oneself against an aggressor with emphasis on avoiding attack.			Participation as a player on an OSU varsity squad.		
Prereq: Limited to women only. Not open to students with credit for EduPAES 172.01.			Prereq: Must be a member of the OSU varsity cross country squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
1172.02 Self Defense Men	U	1	1196.04 Varsity Squads: Fencing	U	2
Skills and understandings essential to defend oneself against an aggressor with emphasis on avoiding attack.			Participation as a player on an OSU varsity squad.		
Prereq: Limited to men only. Not open to students with credit for EduPAES 172.02.			Prereq: Must be a member of the OSU varsity fencing squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
1174 Soccer	U	1	1196.05 Varsity Squads: Field Hockey	U	2
Techniques and knowledge essential for playing soccer.			Participation as a player on an OSU varsity squad.		
Prereq: Not open to students with credit for EduPAES 174.			Prereq: Must be a member of the OSU varsity field hockey squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
1175.01 Softball: Slow Pitch I	U	1	1196.06 Varsity Squads: Football	U	2
Skills and knowledge necessary for playing softball.			Participation as a player on an OSU varsity squad.		
Prereq: Not open to students with credit for EduPAES 175.01.			Prereq: Must be a member of the OSU varsity football squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
1178.01 Swimming I	U	1	1196.07 Varsity Squads: Golf	U	2
Beginning swimming. Open only to non-swimmers and students with no deep water experience.			Participation as a player on an OSU varsity squad.		
Prereq: Students must provide bathing suit. Not open to students with credit for EduPAES 178.01.			Prereq: Must be a member of the OSU varsity golf squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
1178.02 Swimming II	U	1	1196.08 Varsity Squads: Gymnastics	U	2
Elementary swimming skills for those who can swim in deep water but no farther than 2 pool lengths (50 yards).			Participation as a player on an OSU varsity squad.		
Repeatable to a maximum of 3 cr hrs.			Prereq: Must be a member of the OSU varsity gymnastics squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
1178.03 Swimming III	U	1	1196.09 Varsity Squads: Ice Hockey	U	2
Intermediate skills for those who can swim at least 100 yards using the front crawl and at least 2 other strokes. Student must provide bathing suit.			Participation as a player on an OSU varsity squad.		
Repeatable to a maximum of 3 cr hrs.			Prereq: Must be a member of the OSU varsity ice hockey squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
1179 Skin and Scuba Diving	U	2	1196.10 Varsity Squads: Lacrosse	U	2
Skills and knowledge essential for safe diving and preparation for open water checkout dives. Student must be able to swim .25-mile in 10 min. Student must provide bathing suit and bear cost of required special scuba medical exam.			Participation as a player on an OSU varsity squad.		
Prereq: Not open to students with credit for EduPAES 179.			Prereq: Must be a member of the OSU varsity lacrosse squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		

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1196.11 Varsity Squads: Pistol	U	2	2210 History of Sport in 19th Century America	U	3
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity pistol squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Explores intersection between sport and society in 19th century America. Emphasis on modernity; race, class, gender & ethnicity; rise of the city; religious, intellectual and scientific thought. Prereq: Not open to students with credit for EduPAES 210. GE historical study course.		
1196.12 Varsity Squads: Riflery	U	2	2211 History of Sport in 20th Century America	U	3
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity riflery squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Explores intersection between sport and society in 20th century America. Emphasis on consumerism; race, class, gender & ethnicity; mass media; sport in a global world. Prereq: Not open to students with credit for EduPAES 211. GE historical study course.		
1196.13 Varsity Squads: Soccer	U	2	2260 Sport in Contemporary America	U	3
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity soccer squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Examination of intersection of sport and society in contemporary America. Prereq: Not open to students with credit for EduPAES 260.		
1196.14 Varsity Squads: Softball	U	2	3189 Field Experience: Sport Industry	U	3
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity softball squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Orientation to and professional experience in sports industry. Prereq: Enrollment in Sport Industry major. Not open to students with credit for EduPAES 289.03.		
1196.15 Varsity Squads: Swimming	U	2	3193 Independent Study: Sport Industry	U	1 - 12
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity swimming squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Independent study in Sport Industry. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		
1196.16 Varsity Squads: Swimming (Synchronized)	U	2	3208 The Sport Industry	U	3
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity swimming (synchronized) squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Examination of the Sport Industry. Prereq: Major in Sport Industry.		
1196.17 Varsity Squads: Tennis	U	2	3550 Entertainment & Brand Licensing in Sport, Fashion, and Hospitality Industries	U	3
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity tennis squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			This course will provide the student with a basic introduction into the world of sport and entertainment brand licensing. The licensing of brands, characters, sports team names, college logos and artwork, often called 'merchandising,' has become a huge business; the course will take students through the various steps of identifying, protecting, and conducting a licensing program. Prereq: Enrollment in Sport Industry, Fashion and Retail Studies, or Hospitality Management Major.		
1196.18 Varsity Squads: Track and Field	U	2	3798 The European Model of Sports	U	3
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity track and field squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			The European Model of Sport is a study abroad program that takes students on a seminar through Europe, giving them a unique firsthand experience in international sports. The course is designed to introduce students to the European model of sport management, marketing, and sports law; and to provide students with an understanding of the changing context for sport in a global society. Scheduling priority given to Sport Industry majors. Repeatable to a maximum of 6 cr hrs.		
1196.19 Varsity Squads: Volleyball	U	2	4191 Internship: Sport Industry	U	6
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity volleyball squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Directed and supervised experience in a Sport Industry setting. Prereq: 3189 or EduPAES 2189.21. Not open to students with credit for EduPAES 489.05 or 589.03. This course is graded S/U.		
1196.20 Varsity Squads: Wrestling	U	2	4245 Leadership & Programming in Sports Industry	U	3
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity wrestling squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Methods of leadership and programming in sport industry organizations. Prereq: Major in Sport Industry or minor in Coaching Education. Not open to students with credit for both EduPAES 245 and 545.		
1196.21 Varsity Squads: Rowing	U	2	4411 College Sport	U	3
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity rowing squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Historical development of college sport; influence of race, class and gender; mass media; consumer society; place of college sport in American higher education and culture. Prereq: Enrollment in Sport Industry major. Not open to students with credit for EduPAES 411.		
1196.22 Varsity Squads: Diving	U	2	4509 Sport Marketing and Promotion	U	3
Participation as a player on an OSU varsity squad. Prereq: Must be a member of the OSU varsity diving squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Issues related to the marketing and promotion of sport. Prereq: Major in Sport Industry or minor in Coaching Education. Not open to students with credit for EduPAES 509.		
1197 Competitive Club Sports	U	1	4607 Legal Aspects of Sport	U	3
Participation as a member of a competitive club sport team. Prereq: Soph standing, and a member of an OSU club sport. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.			Introduction to the American legal system and major cases/laws which make up sports law. Prereq: Major in Sport Industry or Coaching Education minor. Not open to students with credit for EduPAES 607.		
2250 Cancer Prevention	U	2	4615 Sport and Social Values	U	3
Discussion of the latest findings on avoiding cancer through lifestyle choices and assessment of one's family health history. Prereq: Not open to students with credit for EduPAES 250.			Role of social values play in sport, with emphasis on civic virtue; fair play and social justice; violence/abuses in sport. Prereq: Enrollment in Sport Industry major. Not open to students with credit for EduPAES 615.		
3193 Independent Study: Sport, Fitness and Health Program	U	1 - 12	4900 Researching in Sports Industry	U	3
Independent study in Sport, Fitness and Health. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			Upper-level undergraduate class on various aspects of sport industry research methods that gives a general introduction to social research methods and will cover four broad topics: the foundations of sport industry research, research design, data collection, and data analysis. Prereq: Jr or Sr standing.		
3312 Issues in Alcohol/Drug Use and Abuse	U	2	5610 Women's Sport History	U G	3
Provides an understanding of the dynamics of substance abuse. Prereq: Not open to students with credit for EduPAES 312.			Examines development of women's sport from primitive cultures to contemporary society. Prereq: Jr standing or above. Not open to students with credit for EduPAES 610.		
3314 AIDS Awareness	U	2			
A review of the physiological, psychological, social, legal, and moral issues surrounding the disease AIDS with emphasis placed on responsible decision making about one's lifestyle. Prereq: Not open to students with credit for EduPAES 314.					

Kinesiology: Sport Industry, Sport Management 271

5614	Sport and Sexuality	U G	3		8998	Research: Sport Management	G	1 - 4
	How conceptualization of sexuality shape and are shaped by sport. Prereq: Jr standing or above. Not open to students with credit for EduPAES 614.				Research topics to be determined through discussion with advisor. Repeatable to a maximum of 12 cr hrs or 12 completions.			
5626	Sport and Popular Culture	U G	3		8999	Dissertation/Thesis Research: Sport Management	G	1 - 9
	Examines popular culture's influence on sport and sport as expression of popular culture. Prereq: Jr standing or above. Not open to students with credit for both EduPAES 626.01 and 626.02.				Research for thesis or dissertation purposes only. Prereq: Post-candidacy and Doc standing in Sport Management, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			
5630	Recreational Sport Leadership	U G	3					
	A study of current issues, management techniques, and programming concepts associated with the administration of campus recreation programs. Prereq: Jr standing or above. Not open to students with credit for EduPAES 630.							
6189	Practicum: Sport Management	G	3					
	Opportunity to put professional theory and research into practice under supervision in University, school and agency settings. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.							
6191	Master's Internship/Practicum: Sport Management	G	3 - 8					
	Full-time professional development experience at an approved sport worksite setting. Opportunity to apply theory and skills learned in class under direction of on-site supervisor. Prereq: Permission of instructor. This course is graded S/U.							
6730	Financing Sport Operations	G	3					
	Examines the application of basic concepts of public and private sector financing to collegiate and professional sport organizations. Prereq: Grad standing. Not open to students with credit for EduPAES 733.							
6807	Sport Law	G	3					
	Study of legal issues affecting the delivery of sport services; focus on liability in sport activities. Prereq: Grad standing. Not open to students with credit for EduPAES 807.							
6808	Management of Sport Delivery Systems	G	3					
	Application of contemporary management theories and techniques in the structures and processes of sport delivery systems. Prereq: Grad standing.							
6809	Sport Marketing	G	3					
	Examination and utilization of basic marketing principles in the areas of sport (collegiate and professional) recreation. Prereq: Grad standing. Not open to students with credit for EduPAES 809.							
6837	Event and Facility Management for Sport Managers	G	3					
	Examines the principles and practices of planning and managing sport events and facilities. Prereq: Not open to students with credit for EduPAES 837.							
6842	Business of College Sports	G	3					
	Provides business analysis of intercollegiate athletics, including an in depth look at OSU athletic program; develop understanding or college sports administration, educational, business missions. Prereq: Sport Management major, and Grad standing; or permission of instructor. Not open to students with credit for EduPAES 842 or BusMHR 870. Cross-listed in BusMHR 7605.							
7852	Sport Philosophy and Ethics	G	3					
	Examination philosophical and ethical issues in sports. Prereq: Grad standing. Not open to students with credit for EduPAES 852 or 730.							
7897	Colloquium in Sport Management	G	3					
	Current research in Sport Management. Prereq: Sport Management major, and Grad standing; or permission of instructor. Repeatable to a maximum of 15 cr hrs.							
7906	Understanding Sport Consumers: Theoretical Perspectives	G	3					
	Acquaints students with issues related to sport consumers' behaviors by discussing pertinent theories and implications to sport consumer behavior. Prereq: Grad standing, and Sport Management major; or permission of instructor. Not open to students with credit for EduPAES 906.							
8193	Advanced Individual Studies: Sport Management	G	1 - 12					
	Advanced independent study in Sport Management. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.							
8194	Advanced Group Studies: Sport Management	G	1 - 5					
	Advanced group studies in Sports Management. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.							
8895	Seminars: Sport Management	G	3					
	Writing and research on topics in Sport Humanities. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.							
8951	Theoretical Approaches to Sport Organizations	G	3					
	Organization and management theory applied to sport organizations. Prereq: Major in Sport Management, and Grad standing; or permission of instructor. Not open to students with credit for EduPAES 951 or 952. Repeatable to a maximum of 6 cr hrs.							

Korean

1101.01	Level One Korean I: Classroom Track	U	4
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Standard modern Korean: development of listening and speaking skills; basic grammar; reading and writing of the Korean script (hangul). Classroom Track. Not open to native speakers or students with 3+ years at high school level.
Prereq: Not open to students with credit for 101.01 or 102.01. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1101.51	Level One Korean I: Individualized Instruction	U	1 - 4
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Standard modern Korean: development of listening and speaking skills; basic grammar; reading and writing of the Korean script (hangul). Individualized Track.
Prereq: Not open to students with credit for 101.51, 102.51, or to native speakers of this language through regular course enrollment or EM credit; or to students with 3 or more years of study in this language in high school, except by permission of dept. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102.01	Level One Korean II: Classroom Track	U	4
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Continuation of 1101. Classroom Track.
Prereq: 1101.01 or 1101.02, or 4 cr hrs of 1101.51 or equivalent. Not open to students with credit for 102.01, 103.01, or to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102.51	Level One Korean II: Individualized Instruction	U	1 - 4
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Continuation of 1101. Individualized Track. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement.

Prereq: 1101.01 or 1101.02, or 4 cr hrs of 1101.51 or equiv. Advancement to the first credit in this course in the same semester as the completion of the 4th credit for 1101.51 requires registration for both courses, with permission of instructor. Not open to students with credit for 102.51, 103.51, or to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.01	Level Two Korean I: Classroom Track	U	4
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Modern Korean intermediate level spoken communication, development of reading skills, and written composition. Classroom Track. Not open to native speakers of this language through regular course enrollment or EM credit.

Prereq: 1102.01, 1102.02, 1102.03, 1102.05, 101.01, or 102.01, or 4 sem cr hrs of 1102.51, or equiv. Not open to students with credit for 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.02	Level Two Korean I: Summer Intensive Track	U	4
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Modern Korean intermediate level spoken communication, development of reading skills, and written composition. Summer Intensive Track. Admission to SPEAC is required for registration. Must complete 4 cr hrs during first 3.5 weeks of the Summer Ses. Not open to native speakers of this language through regular course enrollment or EM credit.

Prereq: 1102.01 or 1102.02, or 4 cr hrs of 1102.51, or equiv; and application and admission to SPEAC program. Not open to students with credit for 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.51	Level Two Korean I: Individualized Track	U	1 - 4
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Modern Korean intermediate level spoken communication, development of reading skills, and written composition. Individualized Track.
Prereq: 1102.03, 1102.05, 1102.01, or 1102.02 or 4 cr hrs of 1102.51 or equiv; and 101.51 and 102.51. Not open to students with credit for 103.51, 104.51, or to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

2102.01	Level Two Korean II: Classroom Track	U	5
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Continuation of 1103.01.
Prereq: 1103.01 or 1103.02, or 4 cr hrs of 1103.51 or equivalent. Not open to students with credit for 2102.02, 205, or 206; or native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit.

2102.02	Level Two Korean II-Summer Intensive Track	U	5
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Continuation of 1103.02. Admission to SPEAC is required for registration. Students must complete 5 cr hrs during the second 3.5 weeks of the Summer Session.

Prereq: 1103.01 or 1103.02, or 4 cr hrs of 1103.51 or equivalent. Application and admission to SPEAC program. Not open to students with credit for 205, 206, or to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. FL Admis Cond course.

272 Korean

2102.51 Level Two Korean II: Individualized Track

U 1 - 5

Continuation of 1103.01/1103.51.

Prereq: 1103.01 or 1103.51, or permission of instructor. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is available for EM credit.

2231 Elements of Korean Culture

U 3

A survey of the religion, history, customs, performing arts, fine arts, literature, and social institutions of the Korean people from the earliest era to the present. Taught in English. Prereq: Not open to students with credit for 231. GE cultures and ideas and diversity global studies course.

2451 Korean Literature in Translation

U 3

A close examination of masterpieces in Korean literature across genres for students with no previous academic training in Korean literature. All readings and discussions in English; college-level English reading and writing required.

Prereq: English 1110.01 (110), 1110.02, or 1110.03. Not open to students with credit for 251. GE lit or diversity global studies course.

4101.01 Level Three Korean I: Classroom Track

U 5

Expanding oral and written proficiency in Korean; expansion of vocabulary and knowledge of Chinese characters. Classroom Track.

Prereq: 2102 or equivalent with permission of instructor. Not open to students with credit for 507.01 or 508.01. This course is available for EM credit.

4101.51 Level Three Korean I: Individualized Track

U 1 - 5

Expanding oral and written proficiency in Korean; expansion of vocabulary and knowledge of Chinese characters. Individualized Track. Progress is sequential from one cr hr to the next with a proficiency at the level of 80% required for advancement.

Prereq: 2102 or equivalent with permission of instructor. Not open to students with credit for 507.51 or 508.51. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is available for EM credit.

4102.01 Level Three Korean II: Classroom Track

U 5

Continuation of 4101. Classroom Track.

Prereq: 4101 or equivalent with permission of instructor. Not open to students with credit for 508.01 or 509.01. This course is available for EM credit.

4102.51 Level Three Korean II: Individualized Track

U 1 - 5

Continuation of 4101. Individualized Track. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement.

Prereq: 4101 or equivalent with permission of instructor. Advancement to the first credit in this course in the same semester as the completion of the 5th credit for 4102.51 requires registration for both courses, with permission of instructor. Not open to students with credit for 508.51 or 509.51. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is available for EM credit.

4193 Individual Studies

U 1 - 3

Directed study to meet individual research needs of students in Korean studies. Not a substitute for regular language courses.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

4194 Group Studies

U 1 - 3

Group investigation of issues in Korean studies. Varying topics.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

4998 Undergraduate Research Project

U 3

Focused research toward completion of an original project.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4998H Honors Undergraduate Research Project

U 3

Focused research toward completion of an original project.

Prereq: Honors standing and/or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4999 Undergraduate Research Thesis

U 3

Focused research toward completion of an original thesis.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4999H Honors Undergraduate Research Thesis

U 3

Focused research toward completion of an original thesis.

Prereq: Honors standing and/or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5101 Level Four Korean I

U G 3

Level Four Korean; development of integrated language skills at an advanced level, formal and informal communication, and discussion of contemporary social issues.

Prereq: 4102 or equivalent, or permission of instructor. Not open to students with credit for 610 or 611.

5102 Level Four Korean II

U G 3

Continuation of 5101.

Prereq: 5101 or equivalent, or permission of instructor. Not open to students with credit for 611 or 612.

5256 Interdisciplinary Topics in Korean Politics and Society

U G 3

Interdisciplinary Korean studies course in the areas of social science, bridging Korean history, politics, gender, religion, philosophy, education, intercultural communication and international relations, etc. Taught in English.

Repeatable to a maximum of 6 cr hrs.

5315 Korean Language: Structure, Culture, and Communication

U G 3

A comprehensive survey of structural, cultural, and communicative aspects of the Korean language. Taught in English.

Prereq: 1103, or equiv, or permission of instructor.

5380 Korean Linguistics

U G 3

Examination of the phonology, syntax, lexicon, and writing system of the Korean language; some topics related to language use and acquisition.

Prereq: 1103 or equivalent, or permission of instructor. Not open to students with credit for 680.

5400 Performance Traditions of Korea

U G 3

Cross-cultural and interdisciplinary exploration of cultural expressiveness in the context of Korean performance traditions; includes guided research, field work, ethnography and performance workshop.

Prereq: 2231 or 2451, or Chinese or Japanese equivalents; or permission of instructor. Repeatable to a maximum of 9 cr hrs.

5405 Korean Dramatic Tradition

U G 3

Major works in the Korean dramatic tradition from ancient to contemporary eras. Includes historical and performative discourse, dramatic reading and enactment. Taught bilingually, sometimes in English and sometimes in Korean.

Prereq: 2102.01 or 5 cr hrs of 2102.51 (205 and 206), English 1110 (110), or permission of instructor. Repeatable to a maximum of 6 cr hrs.

5453 Readings in Korean Literary and Classical Texts

U G 3

Advanced study of Korean language and literature in cross-cultural context, by introducing selected narrative, drama, poetry, and critical essays in Korean. Includes literary translation.

Prereq: Completion of Level Three Korean, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

5455 Interdisciplinary Courses in Korean Art, Music, Film, and Theatre

U G 3

Interdisciplinary course in the history and criticism of Korean art, music, theatre, martial art, healing art and film with reference to their implications to humanity. Taught in English.

Repeatable to a maximum of 6 cr hrs.

Landscape Architecture

1100 Landscape Architecture Survey

U 1

Introduction to the University, the Knowlton School of Architecture and the professions of architecture, city and regional planning and landscape architecture.

Prereq: Not open to students with credit for 1100E, 100, Arch 1100 (100), 1100E, 100H, CRPlan 1100 (100), 1100E, or any survey course. Cross-listed in Arch and CRPlan.

2000 Introduction to Landscape Architecture

U 1

Introduction to the profession of Landscape Architecture and the breadth of Landscape Architectural projects and practice.

This course is graded S/U.

2300 Outlines of the Built Environment

U 3

Introduction to the disciplines of architecture and landscape architecture and planning with an emphasis on the physical artifact and its formal and cultural context.

Prereq: Not open to students with credit for 200, 1210, 2300E, Arch 1210 (200), 2300, or 2300E. GE cultures and ideas course. Cross-listed in Arch.

2300E Outlines of the Built Environment

U 3

Introduction to the disciplines of architecture and landscape architecture and planning with an emphasis on the physical artifact and its formal and cultural context. Honors Section.

Prereq: Honors standing. Not open to students with credit for 200, 1210, 2300, Arch 1210 (200), 2300, or 2300E. GE cultures and ideas course. Cross-listed in Arch.

2310 Introduction to Design

U 4

Introduction to the design of the physical environment through the exploration of form, space, and order using drawing and modeling techniques.

Prereq: Not open to students with credit for 1410, 151, Arch 1410 (202), or Arch 2310. Cross-listed in Arch.

2367 Making and Meaning of the American Landscape

U 3

Overview and interpretation of influential figures, policies, programs, cultural forces, and environmental factors that have shaped the American landscape since the Revolutionary War.

Prereq: English 1110 (111) or 110, or equiv. Not open to students with credit for 367 or NatRes 367. GE writing and comm: level 2 and cultures and ideas course.

2367E Making and Meaning of the American Landscape

U 3

Overview and interpretation of influential figures, policies, programs, cultural forces, and environmental factors that have shaped the American landscape since the Revolutionary War.

Prereq: Honors standing, and English 1110 (111) or 110, or equiv. Not open to students with credit for 367 or NatRes 367. GE writing and comm: level 2 and cultures and ideas course.

Landscape Architecture 273

2410 Landscape Architecture Media I

U 3

This course introduces students to tools for communicating concepts, designs and processes of landscape architecture. Working with both analog and digital methods of representation, students learn to make visible their analyses and solutions. Provides a foundation in fundamental digital tools, hand sketching and hybrid methods of representation that convey temporality and environmental phenomena.

Prereq: Not open to students with credit for 271 or 272.

2420 Ecology/Technology I

U 3

This course provides an introduction to landscape materials by studying the qualities, characteristics, and dynamic functions of plants, soils, and water. Emphasis is placed on ecological approach to plant communities and landscape ecology. Topics include fundamentals of site grading, stormwater management, and planting design as well as an introduction to site detailing/construction.

Prereq: 2410. Not open to students with credit for 321 or 624.

2600 Outlines of Landscape Architecture: Visual Literacy in the Built Environment

U 3

Overview of patterns and processes of human design on land in relation to environmental, economic, and socio-cultural forces, with an emphasis on interpretation of visual landscape change.

Prereq: Not open to students with credit for 201. GE VPA course.

2600E Outlines of Landscape Architecture: Visual Literacy in the Built Environment

U 3

Overview of patterns and processes of human design on land in relation to environmental, economic, and socio-cultural forces, with an emphasis on interpretation of visual landscape change. Honors section.

Prereq: Honors standing. Not open to students with credit for 201. GE VPA course.

2780 Landscape Architecture Topics Seminar

U 3

Discussion-based undergraduate course focusing on topics in contemporary landscape practice and research.

Repeatable to a maximum of 6 cr hrs.

2920 Design Studio II: Site Dynamics

U 6

Introduction to basic principles and qualities of landscape architectural design, with a focus on the dynamic interaction of environment and people at site scale within the typological framework of gardens and parks.

Prereq: Enrollment in LArch major. Not open to students with credit for 252.

2930 Design Studio III: Social Dynamics

U 6

Continuation of the second-year Landscape Architecture design studio sequence, with a focus on urban and suburban sites within the typological framework of campuses, complexes and communities.

Prereq: 2920 (252). Not open to students with credit for 254.

3189 Landscape Architecture Ecological Field Explorations

U 1 - 4

Observation and field investigation of the diverse landscape ecologies of Ohio and the region. Repeatable to a maximum of 8 cr hrs or 2 completions.

3194 Group Studies in Landscape Architecture

U 1 - 15

Group-based study of landscape architecture topics within the frame of an instructor guided course.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

3430 Landscape Architecture Media II

U 3

This course reinforces the foundational study of digital landscape representation with an emphasis on mapping and physical modeling. Employing geographic information systems and digital modeling programs, students develop two- and three-dimensional strategies for representing dynamic landscape processes at a range of geospatial scales.

Prereq: 2420 and completion of physical science GE, or permission of instructor. Not open to students with credit for 361 or 702.

3440 Ecology/Technology II

U 3

This course reinforces the foundational study of landscape materials and ecological dynamics with an emphasis on landscapes of the built environment. Specific attention is given to contemporary and sustainable techniques of site construction and landscape detailing.

Prereq: 2420, 3430, and Math 1118 (117) or 1151 (151); or permission of instructor. Not open to students with credit for 322 and 323.

3597 Sustainability & You

U 3

Perspectives on social, environmental, and economic sustainability as it relates to landscape within a global context; problem-solving strategies within an interdisciplinary team environment. Prereq: Jr or Sr standing. Not open to students with credit for 597. GE cross-disciplinary seminar course.

3940 Design Studio IV: Landscape Ecology & Planning

U 6

Synthesis of landscape ecology and urban ecology principles with landscape planning and design at the district, watershed and/or regional scale, with a focus on integration of advanced inventory and analysis methodologies.

Prereq: 2930 (254). Not open to students with credit for 633.

3950 Design Studio V: Design in Detail

U 6

Processes and techniques of design development, detailing and documentation, with a focus on sustainable design practices.

Prereq: 3940 (633 and 356). Not open to students with credit for 658.

4193 Independent Studies in Landscape Architecture

U 1 - 4

For students who wish to pursue special independent studies in landscape architecture, with the guidance of an advisor/instructor.

Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

4194 Group Studies in Landscape Architecture

U 1 - 4

For group-based study of landscape architecture topics within the frame of an instructor guided course.

Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions.

4410 Advanced Landscape Technologies

U 1 - 4

Introduction and development of skills in advanced landscape technologies, including design, communication, modeling, fabrication, implementation and information technologies.

Repeatable to a maximum of 9 cr hrs or 3 completions.

4780H Undergraduate Research Methods

U 3

Quantitative, qualitative and design methods for undergraduate level landscape architectural research. Honors section.

Prereq: Honors standing, and major within the Knowlton School of Architecture. Not open to students with credit for 740.

4960 Design Studio VI: Urbanism

U 6

Advanced landscape design and planning in relation to sustainable urbanism.

Prereq: 3950 or 356. Not open to students with credit for 457.

4970 Design Studio VII: Synthesis

U 6

Advanced landscape architectural research, design and planning synthesizing diverse scales, with an emphasis on interdisciplinary engagement.

Prereq: 4960 or 658.

4999H Honors Design Studio

U 6

Allows for development of topical research/design projects with an interdisciplinary perspective.

Prereq: Honors standing, and major within the Knowlton School of Architecture.

5191 Professional Experience in Landscape Architecture

U G 0

Documentation of work experience in the field of landscape architecture or suitable related areas.

Prereq: Permission of instructor. Repeatable to a maximum of 6 completions. This course is graded S/U.

5194 Group Studies in Landscape Architecture

U G 1 - 15

For group-based study of landscape architecture topics within the frame of an instructor guided course.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 4 completions.

5367 Landscape Architecture Professional Practice

U G 3

Overview of landscape architectural professional practice principles, standards and codes, with a focus on writing and communication.

Prereq: Jr, Sr, or Grad standing, and enrollment in LArch major. Not open to students with credit for 663

5610 History/Theory I

U G 3

This course offers a global survey ranging from prehistoric settlements to the formation of the modern landscape profession in the 19th century. It assembles a foundation for thinking through landscape with approaches from architecture, art history, and archaeology, examining cultural and designed landscapes through common technological and cultural frameworks.

5610E History/Theory I

U G 3

This course offers a global survey ranging from prehistoric settlements to the formation of the modern landscape profession in the 19th century. It assembles a foundation for thinking through landscape with approaches from architecture, art history, and archaeology, examining cultural and designed landscapes through common technological and cultural frameworks. Prereq: Honors standing.

5620 History/Theory II

U G 3

The history and theory sequence engages the disciplines of urban design, planning, and infrastructure, draws on architectural and art history, and discusses the cultural as well as the designed landscape. Landscape History and Theory 2 focuses on the modern period, from the mid 19th-century onward, and the forces that shaped our built environment.

5620E History/Theory II

U G 3

The history and theory sequence engages the disciplines of urban design, planning, and infrastructure, draws on architectural and art history, and discusses the cultural as well as the designed landscape. Landscape History and Theory 2 focuses on the modern period, from the mid 19th-century onward, and the forces that shaped our built environment.

Prereq: Honors standing.

5630 Advanced Topics in History/Theory

U G 3

The final course in the history and theory sequence focuses on specific themes of landscape architecture and planning, both historical and contemporary.

Repeatable to a maximum of 9 cr hrs.

274 Landscape Architecture

5630E Advanced Topics in History/Theory	U G 3	6999 Thesis in Landscape Architecture	G 1 - 8
The final course in the history and theory sequence focuses on specific themes of landscape architecture and planning, both historical and contemporary.		Individual thesis development under guidance of advisor.	
Prereq: Honors standing. Repeatable to a maximum of 9 cr hrs.		Prereq: Permission of instructor. Repeatable. This course is graded (S/U).	
5798 Study Tour in Landscape Architecture	U G 1 - 15	7189 Ecological Field Explorations	G 2
Program offering opportunity for guided travel, field study and on-site investigation in the United States and abroad.		Offers exposure to the varied landscape ecologies of Ohio and surrounding states through series of day trips and extended tours.	
Repeatable to a maximum of 45 cr hrs or 3 completions.		Repeatable to a maximum of 6 cr hrs.	
5880 Interdepartmental Seminar	U G 1 - 15	7193 Independent Studies in Landscape Architecture	G 1 - 4
Interdepartmental seminar; topics to be announced.		For students who wish to pursue independent studies in landscape architecture, with the guidance of an advisor/instructor.	
Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in CRPlan and Arch.		Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.	
5960 Design Competition	U G 1 - 6	7194 Group Studies in Landscape Architecture	G 1 - 4
Learn how to work in interdisciplinary teams to develop design proposals to solve problems in the natural or built environment.		For group-based study of landscape architecture topics within the frame of an instructor guided course.	
Prereq: Jr. Sr, or Grad standing. Repeatable to a maximum of 9 cr hrs or 3 completions.		Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions.	
Cross-listed in Arch and CRPlan.		7410 Landscape Technologies	G 1 - 3
6194 Group Studies in Landscape Architecture	G 1 - 15	Advanced studies in landscape technologies.	
For group-based study of landscape architecture topics within the frame of an instructor guided course.		Repeatable to a maximum of 9 cr hrs or 3 completions.	
Prereq: Grad standing and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.		7600S Graduate Landscape Topics in Research & Theory	G 1 - 3
6400 Landscape Architecture Immersion	G 2	Advanced topics in graduate research and theory.	
Accelerated introduction to topics and techniques of landscape architecture through readings, field visits and instructional workshops.		Prereq: 7780 (740). Repeatable to a maximum of 12 cr hrs or 4 completions.	
Prereq: Grad standing.		7780 Research Methods in Landscape Architecture	G 3
6410 Landscape Architecture Media I	G 3	Quantitative, qualitative and design methods for graduate level landscape architectural research and documentation.	
This course introduces students to tools for communicating concepts, designs, and processes of landscape architecture. Working with both analog and digital methods of representation, students learn to make visible their analyses and solutions. Provides a foundation in fundamental digital tools, hand sketching, and hybrid methods of representation that convey temporality and environmental phenomena.		Prereq: Grad standing. Not open to students with credit for 740.	
Prereq: Grad standing. Not open to students with credit for 670.		7890 Seminar in Landscape Architecture	G 3
6420 Ecology/Technology I	G 3	Advanced topics in landscape architectural practice, theory and research.	
This course provides an introduction to landscape materials by studying the qualities, characteristics, and dynamic functions of plants, soils, and water. Emphasis is placed on ecological approach to plant communities and landscape ecology. Topics include fundamentals of site grading, stormwater management, and planting design as well as an introduction to site detailing/construction.		Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.	
Prereq: 6410, and Grad standing. Not open to students with credit for 702.		7930 Design Studio III: Urban Landscape	G 8
6430 Landscape Architecture Media II	G 3	Design of the urban environment in relation to sustainable urbanism principles and practices.	
This course reinforces the foundational study of digital landscape representation with an emphasis on mapping and physical modeling. Employing geographic information systems and digital modeling programs, students develop two- and three-dimensional strategies for representing dynamic landscape processes at a range of geospatial scales.		Prereq: 6920, and Grad standing. Not open to students with credit for 754. Repeatable to a maximum of 16 cr hrs.	
Prereq: 6420, and Grad standing. Not open to students with credit for 620, 622, 626, 670, 672, and 702.		7940 Design Studio IV: Global Issues	G 8
6440 Ecology/Technology II	G 3	Advanced graduate landscape architectural research, design and planning synthesizing diverse scales, with an emphasis on international and interdisciplinary engagement.	
This course reinforces the foundational study of landscape materials and ecological dynamics with an emphasis on landscapes of the built environment. Specific attention is given to contemporary and sustainable techniques of site construction and landscape detailing.		Prereq: 7930, and Grad standing. Not open to students with credit for 750 and 752. Repeatable to a maximum of 16 cr hrs.	
Prereq: 6420 and 6430, and Grad standing. Not open to students with credit for 620, 622, 626, 670, 672, and 702.		7950 Design Studio V: Design in Detail	G 8
6600 Outlines of Landscape Architecture: Visual Literacy in the Built Environment	G 3	Processes and techniques of landscape architectural design development, detailing and documentation, with a focus on sustainable design practices.	
This lecture course surveys the world of contemporary landscape architecture. Through study of works and texts, as well as design processes, students establish an understanding of landscape architecture as an applied activity and a sphere of research.		Prereq: 7940, and Grad standing. Not open to students with credit for 658. Repeatable to a maximum of 16 cr hrs.	
Prereq: Grad standing, or permission of instructor.		8990 Thesis Pro-Seminar	G 3
6667 Making and Meaning of the American Landscape	G 3	Seminar-based, guided development of individual thesis projects.	
Overview and interpretation of influential figures, policies, programs, cultural forces, and environmental factors that have shaped the American landscape since the Revolutionary War.		Prereq: 7780, and Grad standing. Not open to students with credit for 760.	
Prereq: Grad standing, or permission of instructor.		Latin	
6880 Interdepartmental Seminar	G 1 - 15		
Interdepartmental seminar; topics to be announced.		1101.01 Elementary Latin I	U 5
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in CRPlan and Arch.		Elementary level introduction to the Latin language; the course begins the study of grammar and vocabulary. This course is a conversion of the entirety of 101.01 and the first half of 102.01. Not open to students with 3 or more years of high school study in this language, except by permission of department.	
6910 Design Studio I: Site Design	G 6	This course is available for EM credit. GE for lang course. FL Admis Cond course.	
Introductory design studio with a focus on design process at the site scale.		1101.55 Elementary Latin I: Accelerated	U 5
Prereq: Grad standing. Not open to students with credit for 640.		First part of the accelerated introductory Latin sequence, covering material offered in Lat1101 and first half of the material covered in Lat1102. Not open to students with 3 or more years of high school study in this language, except by permission of department.	
6920 Design Studio II: Dynamic Systems	G 6	Prereq: Not open to students with credit for 1101, 1102, or 101.55. GE for lang course. FL Admis Cond course.	
Synthesis of landscape ecology and site planning principles at the community and/or watershed scale, with a focus on integration of advanced inventory and analysis methodologies.		1102.01 Intermediate Latin I	U 5
Prereq: 6910, and Grad standing. Not open to students with credit for 642 or 644.		Completion of Latin grammar and syntax; introduction to reading of Latin authors. This course is a conversion of the second half of 102.01 and the entirety of 103.	
		Prereq: 1101 or equiv, or Placement Test, or permission of instructor. Not open to students with credit for 103. This course is available for EM credit. GE for lang course. FL Admis Cond course.	
		1102.55 Elementary Latin II: Accelerated	U 5
		Second part of the accelerated introductory Latin sequence; leads to readings of Latin authors such as Ovid, Caesar, Cicero, or Pliny.	
		Prereq: 1101.55. GE for lang course. FL Admis Cond course.	

1103	Intermediate Latin II	U	3	5017	Roman Satire and Novel	U G	3				
Selected readings in Latin literature. Prereq: 1102 (103), or Placement Test, or permission of instructor. GE for lang course.											
1890	Intensive Latin Workshop I	U	6	5018	Post Classical Latin	U G	3				
Intensive Latin workshop introducing grammar and vocabulary up to reading competence of Latin authors, covering the material offered in Latin 1101-1103. Su Sem. Concur: 1891. GE for lang course.											
1891	Intensive Latin Workshop II	U	6	5030	Special Topics in Latin Literature	U G	3 - 9				
Intensive Latin workshop covering the study of Latin authors at the 2000 level. Su Sem. Concur: 1890. Students may not register for any other course if they enroll in Latin 1891.											
2101	Cicero	U	3	Readings from Cicero's works, mainly the orations. Prereq: 1103 or 1890, or permission of instructor. Not open to students with credit for 210.							
2102	Vergil	U	3	Readings from Vergil's poetry. Prereq: 1103 or 1890, or permission of instructor. Not open to students with credit for 211.							
2103	Roman Historians	U	3	5193	Individual Studies	U G	1 - 9				
Readings from Caesar, Sallust, Livy, and/or Tacitus' Agricola. Prereq: 1103 or 1890, or permission of instructor. Not open to students with credit for 212.											
2104	Ovid	U	3	A program of study arranged for each student, with specific passages for reading and topics from Roman literature, culture, or religion for investigation. Prereq: 4 courses more advanced than 1103 or 1890, or Grad standing. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.							
2105	Latin Lyric	U	3	5194	Group Studies	U G	1 - 9				
Readings from the poems of Catullus, Horace, Propertius, Tibullus, or the elegiac poems of Ovid. Prereq: 1103 or 1890, or permission of instructor. Not open to students with credit for 214.											
2106	Roman Comedy	U	3	A program of study arranged for a small group of students, with specific passages for reading and topics from Roman literature, culture, or religion for investigation. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.							
4998	Research	U	1 - 3	5890	Intensive Latin Workshop I	U G	6				
A program of study arranged for each student. Prereq: Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.											
4998H	Honors Research	U	1 - 3	Intensive Latin workshop offered during the first six weeks of the Summer Term (12-wks) introducing grammar and vocabulary up to reading competence of Latin authors, covering the material offered in Latin 1101-1103. Credit will be awarded upon completion of 5891. Concur: 5891. Not open to students with credit for 1101 through 1103. This course is progress graded.							
4999	Thesis Research	U	1 - 6	5891	Intensive Latin Workshop II	U G	6				
A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in Latin. Prereq: Jr standing or above, and enrollment in Classics Major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.											
4999H	Honors Thesis Research	U	1 - 6	Intensive Latin workshop offered during the second half of the Summer Term (12-wks) covering the study of Latin authors at the 2000 level. Concur: 5890. Not open to students with credit for 671.							
5011	Roman Epic Poetry	U G	3	6891	Latin Survey: Prose	G	5				
Readings from Vergil, Ovid, Lucan, and others. Prereq: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 616.											
5013	Roman Historians	U G	3	A survey of Latin Prose Literature from its beginning to late antiquity focusing on language competence and literary history. Au Sem in alternation with Greek 6891. Prereq: 2 courses at the 2000-level, and permission of instructor, or Grad standing. Not open to students with credit for 701.							
Readings from Sallust, Livy, Tacitus and other historians. Prereq: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 617.											
5014	Roman Drama	U G	3	6892	Latin Survey: Poetry	G	5				
Readings from Roman comedy and/or tragedy. Prereq: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 622.											
7890	Graduate Seminar, Latin	G	1 - 3	Survey of Latin Poetry from its beginning to late antiquity focusing on language competence and literary history. Sp Sem in alternation with Greek 6892. Prereq: 4 2000-level courses, and permission of instructor; or Grad standing. Not open to students with credit for 702.							
8999	Research	G	1 - 9	6893	Latin Prose Composition	G	3				
Readings and discussions connected with the writing of a thesis on a topic of Latin literature and culture. Au, Sp, Su Sems. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.											
7193	Individual Studies	G	1 - 9	Assigned reading of Latin authors or topics of Roman culture to help with language requirements or to prepare for exams. Au, Sp, Su Sems. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.							
7890	Graduate Seminar, Latin	G	1 - 3	Research seminar on a topic of Latin literature and Roman culture. Repeatable to a maximum of 30 cr hrs or 15 completions.							
8999	Research	G	1 - 9	Law							
5796	Anglo-American Legal System	U L	1 - 6	5796	Anglo-American Legal System	U L	1 - 6	Introduction to the Anglo-American Legal System for undergraduate students, taught summers at the University of Oxford, Oxford, England. Su Sem. Prereq: Acceptance into Oxford Summer Program. Repeatable to a maximum of 30 cr hrs or 30 completions.			

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5797 Study at a Foreign Institution	U L 1 - 18	7106 Legal Negotiation and Settlement	L 2 - 4
An opportunity for students to study at a foreign institution and receive OSU credit for work completed there. Student will pay OSU fees and fees in excess of OSU tuition, as well as all travel and subsistence costs.		Study of the theory, law, and practice of transactional and settlement negotiations through actual negotiations by individual students in a variety of legal negotiation settings.	
Prereq: Permission of department chairperson. Repeatable to a maximum of 54 cr hrs or 3 completions.		Prereq: Not open to students with credit for 703L.	
6050 U.S. Legal System and Legal Traditions	L 2 - 3	7109 International Commercial Arbitration	L 3
Overview of American law and the U.S. legal profession. Introduction to U.S. common law and statutory law.		Examines international arbitral procedures through the interaction of private contractual ordering, national law, and international treaties.	
Prereq: Not open to students with credit for 630L.		Prereq: Not open to students with credit for 717L.	
6101 Legal Analysis, Research and Writing for International Students	L 2 - 3	7112 Dispute Resolution Processes: Theory & Practice	L 3
Analysis, research and writing for international students in the LLM program.		Survey of dispute resolution processes including negotiation, mediation, arbitration and a variety of court-administered and extra-judicial settlement processes.	
6103 Legal Analysis and Writing	L 2 - 4	Prereq: Not open to students with credit for 722L.	
Introduces students to legal institutions and processes; methods of legal analysis; research sources and strategies; professionalism issues that confront new lawyers; and effective communication with clients, colleagues, and other audiences.		7113 Dispute Resolution in Employment	L 2
Prereq: Not open to students with credit for 502L.		This course offers skills and strategies for effective negotiation and mediation of employment disputes in non-union work environments.	
6106 Legal Analysis and Writing II	L 3	7115 ADR in the Workplace	L 3
Continues the work of Legal Analysis and Writing I using more sophisticated client problems and focusing on teaching students how to write like advocates.		Focuses on the most common forms of resolution of workplace disputes, other than litigation.	
Prereq: Not open to students with credit for 511L.		Prereq: Not open to students with credit for 723L.	
6109 Torts	L 4	7124 International Dispute Resolution	L 3
Trespass to person; negligence; misrepresentation; nuisance, strict liability; liability insurance; alternatives to the fault system; and federal and state regulation of traffic safety.		Examines procedures for resolving international disputes (negotiation, mediation, arbitration, judicial settlement), how they operate in contemporary disputes, and how law governs their use.	
Prereq: Not open to students with credit for 504L.		Prereq: Not open to students with credit for 7118 or 761L.	
6112 Property	L 4	7127 Designing Forums and Disputing Systems	L 2 - 4
Acquisition, incidents, and transfer of ownership; possessory, concurrent, marital, and future interests, and contractual modification of these results.		Design new forums for particular disputes and for a series of disputes.	
Prereq: Not open to students with credit for 505L.		Prereq: Not open to students with credit for 772L.	
6115 Civil Procedure I	L 4	7128 Designing Deals	L 2
Civil procedure in state and federal courts; development of equity; abolition of common law forms of action; merger of law and equity; jurisdiction; venue.		Designing Deals examines how lawyers can help entities forge relationships that create value by merging advanced negotiation theory and simulations with analysis of real-world transactions.	
Prereq: Not open to students with credit for 507L.		7192 Public Interest and Government Externship	L 2 - 4
6118 Constitutional Law	L 4	Conduct substantive legal work at government and non-profit placements, attend a class designed for externs, and fulfill specific academic requirements.	
Functional study of the major substantive, methodological, and federalistic limitations upon governmental power obtaining under practice of judicial review.		Repeatable to a maximum of 8 cr hrs or 3 completions. This course is graded S/U.	
Prereq: Not open to students with credit for 510L.		7193 Individual Studies	L 1 - 4
6121 Contracts I	L 2 - 5	By special arrangement with the dean's office, special problems or projects may be taken for credit under the supervision of members of the faculty. The credit granted varies in proportion to the magnitude of the project.	
Remedies for breach; offer and acceptance; consideration; third party beneficiaries; assignment of rights and delegation of duties; conditions; impossibility and frustration; statute of frauds.		Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.	
Prereq: Not open to students with credit for 503L.		7194 Group Studies	L 1 - 6
6124 Legislation and Regulation	L 3	Group study in selected areas of the law.	
The lawmaking process; how the legislative process works; process by which statutes are enacted; how judges interpret the legislative product in theory and practice.		Repeatable to a maximum of 24 cr hrs or 24 completions.	
6127 Criminal Law	L 4	7200 Business Associations	L 3 - 6
Justifications for regulating behavior through criminal sanctions, how laws are crafted to reach the intended behavior, and issues of culpability, mens rea, and excuses.		Formation, financing, governance, and regulation of corporations and partnerships, and including problems under the federal securities laws.	
Prereq: Not open to students with credit for 533L.		Prereq: Not open to students with credit for 7203 (607.02L) or 607.01L.	
6130 Legal Methods	L 2 - 6	7204 Business Basics for Lawyers	L 1
Legal methods.		A one credit course for students who need a basic introduction into business language, incentives, and concepts.	
Prereq: Permission of college. Not open to students with credit for 590L.		7205 Business Torts and Unfair Competition	L 3
7003 Appellate Advocacy	L 2	Business Torts and Unfair Competition is an advanced Torts course examining the role tort doctrine plays in a business or transactional context.	
Procedural and substantive aspects of appellate practice; the student prepares a brief and presents an oral argument on the basis of assigned research materials.		7206 Insurance Law	L 2 - 3
Prereq: 6103 and 6106. Not open to students with credit for 600L or 7310.		Insurance law and practice with particular reference to fire, life, and automobile insurance; insurable interest; warranties and representation; waiver and estoppel; construction standard policies.	
7006 Advanced Legal Writing	L 2 - 3	Prereq: Not open to students with credit for 618L.	
Training in the preparation of legal documents.		7209 Accounting for Lawyers	L 2 - 3
Prereq: 6103, 6106, and 7003. Not open to students with credit for 601L.		Problems of financial information in the context of business enterprise law and tax law.	
7009 Advanced Legal Research	L 1 - 3	Prereq: Not open to students with credit for 628L.	
Advanced topics in legal research.		7210 Business Bankruptcy	L 2
Prereq: 6103. Not open to students with credit for 602L. Repeatable to a maximum of 6 cr hrs or 6 completions.		Examines issues related to the business bankruptcy process, e.g. Chapter 11 reorganizations; claims and distribution; the automatic stay; adequate protection; setoff; transfers; among other topics.	
7100 Negotiation and Mediation Advocacy	L 1 - 2	7212 Banking Law	L 2 - 3
Negotiation and mediation techniques and practices.		Study of development of banking activities, structure, and regulation; emphasis on state and federal banking laws; interinstitutional competition, and laws relating to geographic and product expansion.	
Prereq: Not open to students with credit for 701L.		Prereq: Not open to students with credit for 652L.	
7103 Issues in Arbitration	L 2 - 4		
An introduction to the arbitration process as well as an identification of controversial legal issues that have arisen in the arbitration context.			
Prereq: Not open to students with credit for 702L.			

7213 Drafting Business Contracts	L 2	7401 Forensic Mental Health Law	L 2
Provides students with a practical, hands-on introduction to the skills, techniques, and strategies that transactional business lawyers use when drafting business contracts.			Discusses the civil and criminal aspects of mental health case law including involuntary civil commitment, competence to stand trial, and sanity at the time of the act.
7214 Contracts II	L 3	7403 White Collar Crime	L 2 - 3
Covers advanced topics in contract law including pre-contractual negotiation, interpretation, performance, breach, enforcement defenses, third party rights, and transactional drafting.			Advanced substantive and procedural study of the federal criminal law enforcement system including RICO (Racketeer Influenced and Corrupt Organizations), mail fraud, drug offenses, tax enforcement, bank secrecy, and civil rights.
7215 Securities	L 2 - 3	Prereq: Not open to students with credit for 639L.	
Analysis of Securities Act of 1933 and its pervasive effects on the issuance and transfers of securities.			
Prereq: Not open to students with credit for 708L.			
7218 Small Business and Entrepreneurial Finance	L 2 - 3	7406 Criminal Procedure: Investigations	L 2 - 4
The financial problems faced by new and small businesses and how they intersect with the law.			Legality of police practices to gather evidence; emphasis on interrogation and search and seizure; some reference to identification procedures and entrapment.
Prereq: Not open to students with credit for 718L.		Prereq: Not open to students with credit for 640L.	
7221 Corporate Finance	L 2 - 3	7409 Criminal Procedure: Adjudication	L 3
Capital formation and financial transactions.			Study of the criminal justice system emphasizing the right to counsel, bail, preliminary proceedings, grand jury, speedy trial, discovery, and pleas.
Prereq: 7200 or 7203, and enrollment in Law; or permission of home academic program leadership and instructor. Not open to students with credit for 719L.		Prereq: Not open to students with credit for 641L.	
7224 Mergers and Acquisitions	L 2 - 4	7500 Disability Discrimination	L 2 - 4
Application of state law, federal securities law, accounting principles, tax law, labor law, products liability law, environmental law, ERISA, antitrust law to mergers and acquisitions.			Problem-oriented analysis of interaction between law and social science; emphasis on civil commitment, rights of disabled individuals, rights to community services (educational, residential, employment), and guardianship.
Prereq: Not open to students with credit for 721L.		Prereq: Not open to students with credit for 636L.	
7228 Regulatory Compliance	L 2	7503 First Amendment	L 2 - 3
Analyzes the legal, ethical and policy foundations of regulatory compliance: the effort to translate statutory requirements into compliant corporate and individual behavior.			Advanced study of First Amendment precedent and doctrines governing the press, speech, association, and church-state relations.
7230 International Business Transactions	L 2 - 4	Prereq: Not open to students with credit for 733L.	
Legal problems in transnational context arising from doing business abroad; investments; establishment; exchange controls; trade, licensing; extraterritoriality of regulatory legislation; international agreements; European Common Market.			
Prereq: Not open to students with credit for 728L.			
7233 Topics in Business law	L 2 - 4	7504 14th Amendment	L 2 - 3
Advanced topics concerning business enterprises.			This advanced course in constitutional law will examine current, recurrent, and lasting topics of interest under the Fourteenth Amendment.
Prereq: Not open to students with credit for 731L. Repeatable to a maximum of 12 cr hrs or 3 completions.			
7234 Venture Capital and Entrepreneurial Dealmaking	L 3	7507 Black Lives Matter: Law and Culture	L 3
This course examines the law and economics of venture capital and entrepreneurship focusing on the legal, economic and financial issues that legal professionals confront in this area.			This course examines law as a site that has defined both blackness and humanness in relationship to African Americans. It also explores black culture to understand various responses to injustice. Cross-listed in AfrAmAST.
7236 International Trade	L 2 - 3	7509 Special Education Advocacy	L 2 - 4
Public international law framework and institutions that regulate trade and economic relations between nations.			The law of special education as provided in the Individuals with Disabilities Education Act.
Prereq: Not open to students with credit for 762L.		Prereq: Not open to students with credit for 757L.	
7300 Commercial Paper	L 2 - 3	7600 Children & the Law	L 2 - 4
Types of commercial or negotiable paper; liability of parties; transfer and payment.			The law applicable to children, including a study of agency and juvenile court treatment of dependent, neglected, abused, unruly, and delinquent children.
Prereq: Not open to students with credit for 605L.		Prereq: Not open to students with credit for 634L.	
7306 Sales	L 1 - 3	7603 Family Law	L 3 - 4
A study of the Uniform Commercial Code and other statutes bearing on the sale of goods in the American market.			Legal concerns in marital relationships, including entrance into marriage, spousal relationships during marriage, annulment, divorce, custody, and post-divorce financial arrangements; legal concerns in quasi-marital living arrangements.
Prereq: Not open to students with credit for 609L.		Prereq: Not open to students with credit for 635L.	
7309 Secured Transactions	L 2 - 3	7606 Adoption Law	L 2 - 3
Creation and perfection of security interests in goods and intangibles under the Uniform Commercial Code; priorities and remedies.			Examines the adoption laws of the United States through their history and development.
Prereq: Not open to students with credit for 7315 or 610L.		Prereq: Not open to students with credit for 638L.	
7310 Transactional Practice	L 2	7610 Sex, Sexuality & the Law	L 2 - 3
Students will explore the procedural and substantive aspects of transactional practice; conduct original research and write a formal report (in multiple drafts); provide a formal oral presentation.			Surveys the various legal issues facing gay men, lesbians and bisexuals.
Prereq: Not open to students with credit for 7003.			
7312 Debtor and Creditor Law	L 2 - 3	7611 Gender and the Law	L 2 - 3
Debtor and creditor rights and remedies; emphasis on the Bankruptcy Code.			Explores various strands of feminist legal theory as well as the legal significance of gender in a variety of contexts, including family, employment, criminal, civil and family law.
Prereq: Not open to students with credit for 7315 or 611L.			
7321 Consumer Law	L 2 - 3	7612 Critical Race Narratives	L 3
In-depth study of consumer rights and remedies as provided by the common law and federal and state statutes, with particular emphasis on the Federal Truth In Lending Act.			Focuses on the relationship between narrative and law by using critical race theory to examine how race in America is a narrative of property and power.
Prereq: Not open to students with credit for 657L.			
7400 Advanced Topics on Criminal Law	L 2 - 4	7700 Human Rights	L 3
Advanced topics on criminal law.			International norms and procedures for the enforcement of the rights of individuals, including treaties and the activities of international agencies.
Prereq: Not open to students with credit for 633L. Repeatable to a maximum of 8 cr hrs or 4 completions.		Prereq: Not open to students with credit for 643L.	
7706 Law of War	L 2 - 3	7706 Law of War	L 2 - 3
The lawfulness of the initiation of hostilities by nations, and the lawfulness of the methods employed in the use of armed force.			The lawfulness of the initiation of hostilities by nations, and the lawfulness of the methods employed in the use of armed force.
Prereq: Not open to students with credit for 760L.		Prereq: Not open to students with credit for 760L.	
7712 International Law	L 2 - 4	7712 International Law	L 2 - 4
International agreements; status of states and individuals; recognition; jurisdiction; international claims; expropriation; human rights; sovereign immunity; war and peace; law of the sea; presidential congressional power.			International agreements; status of states and individuals; recognition; jurisdiction; international claims; expropriation; human rights; sovereign immunity; war and peace; law of the sea; presidential congressional power.
Prereq: Not open to students with credit for 619L.		Prereq: Not open to students with credit for 619L.	

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7800 Copyright Law	L 2 - 3	8020.03 Ohio State Journal on Dispute Resolution	L 1 - 3
Protection of literary and artistic property under the federal copyright statute, related legislation and unfair competition law.		Ohio State Journal on Dispute Resolution.	
Prereq: Not open to students with credit for 625L.		Prereq: Students selected via announced selection process. Repeatable to a maximum of 6 cr hrs or 4 completions. This course is graded S/U.	
7803 Trademark	L 2 - 3	8020.04 I/S: A Journal of Law and Policy for the Information Society	L 1 - 3
An overview of issues in Trademark law.		I/S: A Journal of Law and Policy for the Information Society.	
Prereq: Not open to students with credit for 626L.		Prereq: Students selected via announced selection process. Repeatable to a maximum of 5 cr hrs or 4 completions. This course is graded S/U.	
7804 The Law of Cyberspace	L 2 - 3	8020.05 Ohio State Entrepreneurial Business Law Journal	L 1 - 3
Allows students with varying backgrounds to confront the cutting-edge legal issues that arise from technological change and the Internet.		Ohio State Entrepreneurial Business Law Journal.	
7806 Privacy	L 2 - 3	Prereq: Students selected via announced selection process. Repeatable to a maximum of 6 cr hrs or 4 completions. This course is graded S/U.	
Legal, technological, and political issues surrounding privacy concerns.			
Prereq: Not open to students with credit for 646L.			
7807 National Security Law and Process	L 3	8100 Employment Law	L 2 - 4
Examines legal (international, constitutional, statutory, and administrative), process, policy, political, and personality angles of national security law and lawyering.		State and federal regulation of the employment relationship with primary focus upon minimum wage and overtime compensation, workers' disability and unemployment compensation, safety and health, retirement and pension security, and wrongful discharge.	
7809 Patent Law	L 2 - 3	Prereq: Not open to students with credit for 613L.	
Fundamentals of substantive patent law relating to standards of patentability, patent claim interpretation and enforcement in patent litigation, and licensing.			
Prereq: Not open to students with credit for 737L.			
7812 Patent Prosecution	L 2 - 3	8103 Labor Law	L 2 - 5
Patent Prosecution.		Federal regulation of labor-management relations focusing upon employee organizational and representational rights, selection of bargaining representative, collective bargaining process, contract administration and enforcement, and internal union affairs.	
7814 International Intellectual Property	L 3	Prereq: Not open to students with credit for 614L or 8103.01.	
The course will survey key international treaties, including TRIPS, and their implementation into domestic law. It will also examine use of the WTO Dispute Settlement System to resolve IP disputes.			
7815 Introduction to Intellectual Property	L 2 - 3	8103.01 Labor Law, Labor Arbitration and Collective Bargaining Negotiation	L 4
An introduction to the various forms of intellectual property law.		This course will cover substantive labor law issues as well as the modern practice of labor law, including negotiating a collective bargaining agreement and arbitrating grievances.	
Prereq: Not open to students with credit for 783L or for a combination of two or more of the following courses: 7803, 7809, 7800.		Prereq: Not open to those with credit for course 8103.	
7816 Investment Management Law	L 3	8104 ERISA and ESOP Litigation	L 3
Regulations and obligations applicable to investment companies and advisers, including mutual funds, brokers and dealers, hedge funds and private equity funds.		A study in the provisions, theory, application and case precedent of ERISA with emphasis upon one of the fastest growing retirement plans, The ESOP, and the litigation arising therefrom.	
Prereq: 7200 (607.01L) or 7203.			
8000 Trial Practice	L 2 - 4	8106 Employee Benefits	L 3
Forensic skills developed through actual trial advocacy by individual students in civil or criminal cases.		Federal regulation of employee benefits, both pension benefits and welfare benefits, primarily through the Employee Retirement Income Security Act of 1974.	
Prereq: 8200, or permission of instructor. Not open to students with credit for 704L.		Prereq: Not open to students with credit for 725L.	
8002 Depositions	L 1	8109 Employment Discrimination Law	L 2 - 4
Covers the procedure and problems associated with taking a deposition, including how to effectively take a deposition and integrate the information with other discovery mechanisms.		A constitutional and statutory study of federal and state laws that proscribe employment discrimination based upon race, color, religion, sex, national origin, age, and physical and mental handicap.	
8005 Lawyering Skills Program	L 1 - 5	Prereq: Not open to students with credit for 744L.	
Students may earn credit for their participation in the lawyering skills program.			
Repeatable to a maximum of 5 cr hrs. This course is graded S/U.		8189.01 Crim Defense Clin	L 2 - 4
8008 Appellate Practice	L 1 - 4	Advanced study and training in performance of legal services for the poor under supervision of clinical faculty and staff attorney. Development of the basic knowledge and skills of criminal law practice.	
Procedural and substantive aspects of appellate practice; perfection of appeals; preparation of briefs and oral argument; participation by third-year students in various aspects of Lawyering Skills Program (Moot Court).		Prereq: 8200. Not open to students with credit for 738.01L.	
Repeatable to a maximum of 4 cr hrs or 4 completions. This course is graded S/U.			
8010.15 DC Ethics	L 2 - 3	8189.02 Civil Law Clinic	L 2 - 4
The ethics of lawyering in Washington, D.C.		Advanced study and training in performance of legal services for the poor under supervision of clinical faculty and staff attorney. Development of the basic knowledge and skills of civil law practice on behalf of the poor.	
Prereq: Admission to the summer Washington D.C. program.		Prereq: 8200. Not open to students with credit for 738.02L.	
8015 Herman Moot Court Competition	L 1 - 4	8189.03 Criminal Prosecution Clinic	L 4
The Herman competition is a voluntary intramural appellate advocacy competition for second year students in the J.D. program. The Herman competition determines invitation to participate in one of the college's traveling moot court teams.		Students represent the City of Delaware in criminal cases, prosecuting cases such as domestic violence, sexual misconduct, drunk driving, and theft.	
Prereq: Not open to students with credit for 714L. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is graded S/U.		Prereq: 8200. Not open to students with credit for 738.03L.	
8020.01 Ohio State Law Journal	L 1 - 3	8189.04 Justice For Children Clinic	L 2 - 6
Special studies covering diverse subjects of a legal nature participated in by the group selected for work on the Law Journal.		Study of the intricacies of the juvenile intake process, difficulties of dealing with a total family situation involving child neglect or juvenile delinquency, and substantive legal problems of the juvenile area.	
Prereq: Selection for Law Journal by editors. Repeatable to a maximum of 5 cr hrs or 4 completions. This course is graded S/U.		Prereq: Not open to students with credit for 738.04L.	
8020.02 Ohio State Journal of Criminal Law	L 1 - 3	8189.05 Legislation Clinic	L 1 - 4
Ohio State Journal of Criminal Law.		Law students help Ohio legislators analyze legislative issues, examine other states approaches, and develop statutory (or other) responses that are appropriate for our state.	
Prereq: Permission of instructor. Repeatable to a maximum of 5 cr hrs or 4 completions. This course is graded S/U.		Prereq: Not open to students with credit for 738.06L.	
8189.06 Multiparty Mediation Clinic	L 4	8189.06 Multiparty Mediation Clinic	L 4
Examines the legal, ethical, and policy issues that arise when using the mediation process to resolve multi-party controversies.			
Prereq: Not open to students with credit for 8189.07.			
8189.07 Mediation Clinic	L 4	8189.07 Mediation Clinic	L 4
Examines legal, ethical, and policy issues surrounding mediation and to develop mediation skills.			
Prereq: Not open to students with credit for 8189.06.			

8189.08 Selected Legal Problems Clinic	L 1 - 4	8310 Energy Law	L 3
Topics will change as specially scheduled in any semester. Repeatable to a maximum of 8 cr hrs or 2 completions.		An introduction to domestic energy law, focusing on the legislative and regulatory framework for electricity and the challenges associated with diversification of energy sources.	
8189.09 Entrepreneurial Business Law Clinic	L 4	8311 Climate Change Law	L 3
This clinic allows students to represent entrepreneurs and emerging businesses in need of transactional legal assistance.		Explores the legal, political, and scientific challenges involved in addressing and responding to climate change, including international strategies and U.S. law and policy.	
8189.20 Judicial Externship	L 2 - 3	8312 Election Law	L 3
Judicial externships for credit. Prereq: Faculty permission. This course is graded S/U.		Examines the laws that govern political elections, including campaign finance rules, ballot access issues, and re-apportionment. Prereq: 6118. Not open to students with credit for 752L.	
8189.30 DC Externship	L 2 - 3	8315 Education Law	L 3
Substantive externships in D.C. Prereq: Application to the Washington D.C. summer program.		An examination of the legal framework and issues of public education K-12. Prereq: Not open to students with credit for 753L.	
8200 Evidence	L 2 - 4	8318 Law and the Presidency	L 3
Survey of rules of evidence; particularly demonstrative, testimonial, and circumstantial proof; qualification and examination of witnesses; privilege; relevancy; documents; hearsay rule and its exceptions. Prereq: Not open to students with credit for 603L.		Examines the law that governs U.S. presidential power in both foreign and domestic affairs, and the President's interactions with Congress and the Judiciary. Prereq: Not open to students with credit for 756L.	
8203 Civil Procedure II	L 3 - 5	8400 Interprofessional Education: Care of Patient/Client	L 1 - 2
Examination of federal rules of civil procedure: pleading, joinder, class actions, discovery, disclosure, case management, adjudication without trial, jury selection, post-trial motions, and appellate review. Prereq: Not open to students with credit for 604L.		Focuses on ethical issues, changing professional/consumer rights, and Interprofessional cooperation; limited to students in education, law, medicine, nursing, social work, bio-medical sciences, and allied health professions. Prereq: Not open to students with credit for 700.01L.	
8206 Conflict of Laws	L 3 - 4	8403 Ethical Issues	L 1 - 4
Private law pertaining to jural relations containing one or more foreign elements; jurisdiction; foreign judgments; domicile; choice of law; torts; workmen's compensation acts; contracts; property; family law; decedents' estates. Prereq: Not open to students with credit for 706L.		Focuses on ethical issues, changing professional/consumer rights, and Interprofessional cooperation; limited to students in education, law, medicine, nursing, social work, bio-medical sciences, and allied health professions. Prereq: Not open to students with credit for 700.03L. This course is graded S/U.	
8209 Federal Courts	L 3 - 4	8406 Professional Responsibility	L 1 - 2
The federal judicial system; jurisdiction of the district courts, courts of appeals, and United States Supreme Court. Prereq: Not open to students with credit for 710L.		Legal and ethical problems of the legal profession and the practicing lawyer. Unauthorized practice, bar admission, group legal services, malpractice, professional organization, and discipline. Required course. Prereq: Not open to students with credit for 736.01L.	
8210 Constitutional Litigation	L 3	8409 Professional Responsibility: Extended	L 1 - 4
Advanced and applied constitutional law with a focus on how to litigate and defend constitutional claims against public officials and local governments.		Legal and ethical problems of the legal profession and the practicing lawyer. A more comprehensive presentation of unauthorized practice, bar admission, group legal services, malpractice, professional organization, and discipline. Prereq: Not open to students with credit for 736.02L.	
8211 Sentencing Law & Policy	L 3	8600 Real Estate Finance	L 2 - 4
Reviews traditional theoretical justifications for punishments and examines in depth society's always-developing approach to the sentencing of criminal offenders.		Introductory study of real estate financing, emphasizing mortgages, deeds of trust, installment land contracts, rights and remedies of borrowers and lenders, and contemporary financing innovations. Prereq: Not open to students with credit for 621L.	
8212 Pretrial Litigation	L 3 - 4	8603 Real Estate Development	L 2 - 4
Depositions and client interviews; drafting of interrogatories; case strategies. Prereq: Not open to students with credit for 739L.		Overview of role that a lawyer plays during the development of a commercial real estate project. Prereq: Not open to students with credit for 645L.	
8215 Remedies	L 2 - 4	8700 Federal Income Taxation	L 3 - 5
An integrated study of remedial theory and devices available in the context of torts, contracts and property law. Prereq: Not open to students with credit for 743L.		Gross income; deductions; credits; attribution; timing; sales and other dispositions of property; characterization of income and deductions. Prereq: Not open to students with credit for 606L.	
8218 Products Liability	L 3	8706 State and Local Taxation	L 2 - 3
Examines the theories and defenses of those involved in the manufacturing and selling of products. Prereq: Not open to students with credit for 782L.		Legal problems arising in property, excise, income, and estate-inheritance taxation; tax administration and procedure. Prereq: Not open to students with credit for 622L.	
8300 Federal Antitrust Law	L 2 - 4	8707 State and Local Government Law	L 3
Combinations in restraint of trade; monopolization, attempts and conspiracies to monopolize; mergers, patent antitrust problems, and price discrimination under Sherman, Clayton, and Federal Trade Commission acts. Prereq: Not open to students with credit for 623L.		State and Local Government addresses major issues facing state and local governments and prepares students to practice law and influence policy at the state and local level. Graduate students in public policy and related fields are welcome to enroll.	
8303 Immigration Law	L 3	8708 Biotechnology Law and Policy	L 3
Law concerning persons who want to come to the United States on a temporary or permanent basis. Prereq: Not open to students with credit for 624L.		An interdisciplinary approach to examining many of the legal, business, ethical, and policy issues raised by the biotechnology industry.	
8306 Administrative Law	L 3 - 4	8709 Wills, Trusts, Estates	L 2 - 4
A study of the creation, operation, and control of federal administrative agencies, emphasizing their legislative, investigative, and adjudicatory authority and its control through judicial review. Prereq: Not open to students with credit for 729L.		Gifts, wills, intestate succession, protection of spouse and other dependents, fiduciary administration, social security and other employee benefits, life insurance. Prereq: Not open to students with credit for 656L.	
8308 Environmental Law Practicum	L 2	8712 Tax of Bus. Ent.	L 3 - 4
This course uses a simulation-based curriculum to give students a sense of what environmental law practice is really like and teach them the skills required to practice successfully in this area. Prereq: 8309.		Taxation of organizations; operations; sales and liquidations; divisions and reorganizations. Prereq: 8700. Not open to students with credit for 715L.	
8309 Environmental Law	L 2 - 4		
Federal environmental legislation, regulations, and judicial interpretation, including Natural Environmental Policy Act, the Clean Air Act, the Clean Water Act, and the Solid Waste Act, as amended. Prereq: Not open to students with credit for 732L.			

280 Law

8715 International Taxation	L 2 - 3	8896.02 Seminar: The U.S. Supreme Court	L 2 - 3
United States taxation of transnational transactions, including taxation of foreign entities operating in the United States and taxation of United States entities operating in foreign countries.			The Supreme Court as an institution emphasizing its formal and informal norms and structures, and content of the law the Court makes.
Prereq: 8700. Not open to students with credit for 716L.			Prereq: Not open to students with credit for 796.11L.
8796 Study at a Foreign Institution	L 1 - 10	8896.06 Seminar: Ethics and ADR	L 2
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.			Explores the intersection of traditional lawyer ethical codes with the new roles lawyers assume with alternative dispute resolution (ADR).
Prereq: Written permission of the Dean. Repeatable to a maximum of 30 cr hrs or 4 completions.			Prereq: Not open to students with credit for 796.15L.
8797 Participation in a Foreign Exchange Program	L 1 - 12	8896.08 Seminar: History of American Law and Society Since the Civil War	L 2
By participating in semester exchange programs, students may take up to 12 credits of law courses at partner institutions in Europe, Asia, and Latin America. Topics will vary based on course selection. Written permission of the Law Academic Affairs Committee is required for participation in non-ABA approved exchange programs.			The history of American law and legal institutions, and their relationship to society, from the Reconstruction era through recent past.
Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.			Prereq: Not open to students with credit for 796.17L.
8800 Jurisprudence	L 2 - 4	8896.11 Seminar: Research Seminar in Law	L 2 - 3
Jurisprudential thought as represented by general theories of or about law; assessment of leading jural doctrines; relationship to social control policy and to legal precepts.			Topics will change as specially scheduled in any semester.
Prereq: Not open to students with credit for 620L.			Repeatable to a maximum of 6 cr hrs or 3 completions.
8803 Law and Religion	L 2 - 4	8896.12 Seminar: Sexual Violence and the Law	L 2
Examines the intersections of law and various religious manifestations.			Examines various theories of sexuality -- both cross-sex and same-sex -- and how they sit in relation to violence, injury, and law.
Prereq: Not open to students with credit for 642L.			Prereq: Not open to students with credit for 796.21L.
8806 Advanced Constitutional Law	L 2 - 3	8896.13 Seminar: Tax Topics	L 2 - 3
Constitutional theory, with emphasis on competing views of judicial review and the judicial function; the methodologies and processes of constitutional decision making; and criteria for judicial justification.			Variable topics including tax ethics and policy. This seminar requires as a prerequisite Federal Income Tax Law 8700.
Prereq: Not open to students with credit for 658L.			Prereq: 8700. Not open to students with credit for 796.41L. Repeatable to a maximum of 6 cr hrs or 2 completions.
8809 Health Law	L 2 - 4	8896.17 Seminar: Consumer Law	L 2 - 3
Selected issues in the practice of medicine; medical malpractice, ethical issues, regulation of the health care industry, and use of medical testimony and proof in litigation.			Consumer credit; statutory and judicial regulation, with particular emphasis on the problems of the poor consumer.
Prereq: Not open to students with credit for 711L.			Prereq: Not open to students with credit for 796.55L. Repeatable to a maximum of 6 cr hrs or 2 completions.
8810 Public Health Law	L 3	8896.18 Seminar: Topics in Election Law	L 2 - 3
Surveys the legal framework of government public health regulations, by examining the sources and limitations of the government's authority to address current policy issues.			Exploration of the lawyer's role in the political process; the relationship of political parties to the election process; and the interplay of legal requirements and the campaign and voting procedures.
8811 FDA Law & Policy	L 3	Prereq: Not open to students with credit for 796.58L. Repeatable to a maximum of 6 cr hrs or 2 completions.	
Explores legal and policy issues related to products regulated by the U.S. Food and Drug Administration.			8896.19 Seminar: Evidence and Trial Practice
Cross-listed in PubHlth.			A host of evidentiary issues that challenge trial courts and litigants in the course of a trial.
8813 E-Discovery Law and Practice	L 2	Prereq: Not open to students with credit for 796.20L.	
Presents an overview of e-discovery law, as well as an examination of its practical implications for modern commercial litigation and other contemporary practices areas.			8896.21 Seminar: Topics In Intellectual Property
8816 The Lawyer in the Community	L 3	Prereq: Not open to students with credit for 796.64L. Repeatable to a maximum of 6 cr hrs or 2 completions.	
Examines the lawyer's relationship to the larger community in which s/he works and lives. It surveys traditional and nontraditional lawyering tools for serving communities and their needs.			8896.24 Seminar: Constitutional Problems
8817 The Rule of Law in the Age of Legal Change	L 3	Prereq: Not open to students with credit for 796.03L. Repeatable to a maximum of 4 cr hrs.	
This course will introduce students to "the rule of law" as part of a larger introduction to some of the major legal and policy changes being made by the Trump Administration.			8896.25 Seminar: Law in Africa
8818 Sports Law	L 2 - 4	Prereq: Not open to students with credit for 796.04L.	
Provides basic knowledge of relevant substantive law as well as appreciation of effect of applying general legal principles to a popular, scrutinized and mythologized subject.			8896.26 Seminar: Critical Race Theory
Prereq: Not open to students with credit for 758L.			Issues surrounding race and gender are critiqued in this course from a sociological, historical, political, economic and legal perspective.
8821 Nonprofit Law	L 2 - 3	8896.27 Seminar: Middle East Conflict	L 2
Examines the major aspects of governance and tax law issues affecting the nonprofit sector, particularly legal counsel, directors, trustees, employees, or volunteers.			The Israeli-Palestinian conflict: legal issues, positions of the parties, relevant treaties, activity of international agencies, procedures for settlement.
Prereq: Not open to students with credit for 766L.			Prereq: Not open to students with credit for 796.06L.
8824 Lawyers and the Media	L 2	8896.29 Computer Crime and Surveillance	L 2
Legal and ethical issues involved with making public statements about litigation and legal issues.			The ways in which computers and the internet change the way crime is committed, investigated, and punished.
Prereq: Not open to students with credit for 771L.			8896.30 Sem: Advanced Family Law
8827 Law and Economics	L 2 - 3	Perspectives on the field of Family Law, past, present and future.	
Economic analysis of legal opinions, including a review of how courts use economic analysis.			Prereq: 7603 (635L).
Prereq: Not open to students with credit for 780L.			8896.33 Sem: Federal Death Penalty Habeas
8828 Oil and Gas Law	L 2 - 3	Prereq: Not open to students with credit for 797L. Repeatable to a maximum of 6 cr hrs or 3 completions.	
Studies the law governing oil and gas ownership and development. It will include a study of related property interests in oil and gas, basic leasing concepts and regulatory principles.			Examines substantive and procedural issues in federal habeas corpus review of death penalty cases. Reviewing doctrine and practice, it tracks the development of the law to its modern form.

8896.34 Sem: Doing Business in China	L 2	8896.56 Sem: State Constitutional Law	L 2
Covers basic forms of multinational companies doing business in China, examining foreign investment formations, corporate reorganizations, labor, tax, real estate, and dispute resolution.			This seminar explores the nature and significance of state constitutional law, its role in the fabric of American law, and the interaction between state and federal constitutional law.
8896.36 Sem: Public Utilities	L 2	8896.57 Sem: Health Care Agreements and Transactions	L 2
The course examines the regulation and deregulation of utilities including: competition, trading, consolidations, effects on public service obligations, and municipal power and cooperatives.			This course will examine the unique health care regulatory and industry features of common health care agreements and transactions.
8896.38 Sem: Marijuana Law Policy & Reform	L 2	8896.58 Sem: Progressive Era and Its Contemporary Relevance	L 2
This seminar will examine the social and historical backdrop of intoxicant prohibition, and assess the legal reforms and political debates now surrounding the control and regulation of marijuana use.			The Progressive Era (1890-1920) produced the most significant reform of American democracy of any period in US history. This seminar will study its successes (and failures) to see their relevance today.
8896.39 Sem: Disability Discrimination	L 2	8896.59 Sem: Section 1983: Police Misconduct and Prison Violations	L 2
Surveys the employment, public accommodation and public entity provisions of the Americans with Disabilities Act. Students are required to conduct an accessibility negotiation.			This course considers the origins, uses, and limits of section 1983 litigation in the contexts of police misconduct and prison violations.
8896.40 Sem: Hot Money	L 2	8896.60 Sem: Transitional Justice	L 2
Examines the appropriate regulation of investor funds that chase short-term trading gains in capital markets. Current financial news and events are at the forefront of class discussion.			This seminar will explore the diverse range of transitional justice mechanisms in post-conflict societies and compare and analyze them in view of various demands for justice.
8896.41 Sem: Civil Rights	L 2	8896.61 Sem: What's International Law For? Purposes and Values of the International Legal Order	L 2
This seminar surveys the history of civil rights laws and issues in part by exploring the development of constitutional doctrines such as anti-discrimination, color blindness, and anti-subordination.			This seminar examines the overarching policy purposes animating and guiding the international legal order.
8896.42 Sem: Race & Crime	L 2	8896.62 Sem: Prisons, Police, and Borders	L 2
This seminar examines questions relating to the myriad ways in which race intersects with the law and with the criminal justice system.			The course will consider the historical, psycho-social, and legal foundations of prison, police, and borders, and the possibilities for reforms and alternatives.
8896.43 Sem: Jurisprudence	L 2	8900 Transfer Credit	L 1 - 25
Explores fundamental questions that underlie our legal system by examining various perspectives on law, including natural law, positivism, legal realism, and critical legal perspectives.			Transfer Credit. Repeatable to a maximum of 31 cr hrs or 6 completions. This course is graded S/U.
8896.44 Seminar: Education Law	L 2	8910 Enrollment in Law	L 0
Focuses primarily on K-12 education wherein students examine topics including school safety issues, protection of student privacy and freedom of expression, and the rights of educators.			Enrollment in law, no credit. Repeatable to a maximum of 2 completions. This course is graded S/U.
8896.45 Seminar: The Business of Law	L 2	8950 Professional Practice Skills Course	L 1 - 3
Explores the business of law. Students will study how law firms historically have been structured and how they have evolved, and review and critique proposals for restructuring.			Professional Practice series focus on specific lawyering skills and are taught by law faculty or distinguished adjuncts. Prereq: Not open to students with credit for 707.02L. Repeatable to a maximum of 9 cr hrs or 3 completions.
8896.46 Sem: Lawyering and Social Movements	L 2	8953 Professional Practice Capstone Course	L 1 - 3
Examines the complex and dynamic relationship between law, lawyers, and social movements.			Professional Practice Capstone series are taught by distinguished visitors and focus on real-world challenges faced by lawyers in particular areas, such as health law, international trade, or employment law. Prereq: Not open to students with credit for 707.01L. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.
8896.47 Sem: War Crimes Law	L 2	8956 Jury Instructions	L 1
This seminar explores the lack of "rule of law" and its role in the conflicts in the Balkans focusing on the history and studying both international and domestic trials.			Step-by-step approach to the drafting of jury instructions. Prereq: Not open to students with credit for 749L.
8896.48 Sem: Disaster Law	L 2	8964 Lawyers as Leaders	L 2 - 3
This seminar explores the emerging field of disaster law, focusing on disaster prevention, emergency response, compensation & insurance, environmental protection, human rights, and community recovery.			Combining theory, simulations and case studies, this course develops a descriptive and normative picture of leadership practices and challenges for lawyers. Prereq: Not open to students with credit for 783.
8896.49 Sem: Standard-Form Agreements and the Boilerplate Problem	L 2	8990 American Legal History	L 2 - 3
Examining how standard-form agreements interact with underlying legal norms, and whether, when, and how, should the law allow the forms to circumvent those underlying norms.			The history of American law from its colonial antecedents until the twentieth century, emphasizing the relationship between law and the changing social, political, and economic conditions. Prereq: Not open to students with credit for 627L.
8896.50 Sem: Gender and the Law	L 2 - 3		
This seminar explores various strands of feminist legal theory as well as the legal significance of gender in a variety of contexts, including family, employment, criminal, civil and family law.			
8896.51 Sem: Critical Race Narratives	L 2 - 3		
This seminar focuses on the relationship between narrative and law by using critical race theory to examine how race in America is a narrative of property and power.			
8896.52 Sem: U.S. Supreme Court Decisionmaking	L 2		
The seminar considers theories of statutory and constitutional interpretation from the current court's perspective, examines Supreme Court practice and looks at key cases pending in the current term.			
8896.53 Sem: International Intellectual Property	L 2		
The seminar will survey key international treaties, including TRIPS, and their implementation into domestic law. It will also examine use of the WTO Dispute Settlement System to resolve IP disputes.			
8896.54 Sem: Critical Theory/Critical Lawyering	L 2		
This course introduces students to important strands of contemporary legal theory, including Critical Legal Studies, Critical Race, Feminist, Queer, Lat-crit, and Classcrit theories.			
8896.55 Sem: Big Data Law and Policy	L 2		
The seminar will introduce big data; describe how it generates value; explain how it poses risks to cybersecurity, privacy and equal opportunity; and explore the laws and policies that govern it.			

Linguistics

1100 The Basics of Language for Language Learners	U 3
Important tools for becoming a successful foreign language learner; cross-cultural differences and similarities in language use, parts of speech, foreign sounds, typical mistakes, etc.	
Prereq: Not open to students with credit for Linguist 170. GE soc sci indivs and groups and diversity global studies course.	
1101 Human Voices	U 1
Students will explore the acoustic properties of the human voice, including what makes voices unique, with the goal of understanding what makes the voices of ourselves, our friends and family, and famous actors and politicians distinctive, memorable, and recognizable.	
Prereq: Not open to students with credit for ArtsSci 1138.xx (Famous Voices, Clopper).	
2000 Introduction to Linguistics	U 3
Examination of language as a system of human communication; provides students with the tools needed for the recording, investigation, and close analysis of language.	
Prereq: Not open to students with credit for 2000H or 201. GE cultures and ideas course.	

282 Linguistics

2000H Introduction to Linguistics U 3

Examination of language as a system of human communication; provides students with the tools needed for the recording, investigation, and close analysis of language.
Prereq: Honors standing. Not open to students with credit for 201H. GE cultures and ideas course.

2001 Language and Formal Reasoning U 3

How natural and artificial languages are alike in structure and use in reasoning; how natural languages differ in principles of use by humans.
Prereq: Math 075 or equiv, or Math placement level R. Not open to students with credit for 280. GE quant reason math and logical anly course.

2051 Analyzing the Sounds of Language U 3

The sounds that languages use are examined. Quantitative analytical tools used in phonetic science are introduced. Small experiments are conducted to introduce students to research.
Prereq: Math 1075 or 1148, or an ACT math subscore of 22 or higher that is less than two years old; or Math Placement Level R. Not open to students with credit for 2051H (Linguist 286H) or 286, SphHrng 2051 (286), or 286H. GE data anly course. Cross-listed in SphHrng.

2051H Analyzing the Sounds of Language U 3

The sounds that languages use are examined. Quantitative analytical tools used in phonetic science are introduced. Small experiments are conducted to introduce students to research.
Prereq: Honors standing, and Math 148 or 150. Not open to students with credit for SphHrng 2051 (286) or 286H. GE data anly course.

2052H Theories of Linguistics: The Scientific Method for Abstractions and Unobservables U 3

Provides a strong grounding in fundamental principles of scientific reasoning illustrated through concrete examples across the Natural and Social sciences with emphasis on Psychology and Linguistics. This course is suitable for students from all backgrounds including non-science majors. Students will gain understanding of what it means to "do science."
Prereq: Honors standing. GE quant reason math and logical anly course.

2194 Group Studies U 1 - 3

Introductory topics in linguistics.
Repeatable to a maximum of 6 cr hrs or 6 completions.

2367.01 Language, Sex, and Gender in American Culture U 3

Discussing and writing about ways that views about sex and gender affect language and its use in speech communities in the U.S.
Prereq: Soph standing, and English 1110.01 (110.01), or 1110.02 (110.02), or 1110.03 (110.03), or equiv. Not open to students with credit for 2367.01H (367.01H), 367, 367H, or 367.01. GE writing and comm: level 2 and diversity soc div in the US course.

2367.01H Language, Sex, and Gender in American Culture U 3

Discussing and writing about ways that views about sex and gender affect language and its use in speech communities in the U.S.
Prereq: Honors and Soph standing; and English 1110.01 (110.01), or 1110.02 (110.02), or 1110.03 (110.03), or equiv. Not open to students with credit for 2367.01 (367.01), 367, 367H, or 367.01H. GE writing and comm: level 2 and diversity soc div in the US course.

2367.02 Language and Advertising U 3

How advertising impacts American culture; how the U.S. influences international advertising and how various populations are represented in ads.
Prereq: English 1110.01 (110.01), or 1110.02 (110.02), or 1110.03 (110.03), or equiv; and Soph standing. Not open to students with credit for Linguist 367.02. GE writing and comm course: level 2.

2797.01 Global May Study Abroad New Zealand U 3

Introduces students to the unique history and culture of New Zealand. Through an intensive immersion program students will combine classroom instruction from UC academics with cultural visits and community engagement projects. The focus of the course is on Language and Identity which will enable students to become immersed in the culture and history of New Zealand.
GE education abroad course.

3191 Internship in Linguistics U 1 - 3

Intensive experience in linguistics as a research assistant on a faculty research project or as an intern at a linguistics-related business or organization.
Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601), and at least 3 additional courses in Linguistics. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.

3501 Introduction to American Indigenous Languages U 3

An introduction to indigenous languages of the Americas and their speakers: e.g. history of settlement, language families, linguistic properties, bilingual education, language policies and attitudes.
Prereq: English 1110.01 (110.01), 1110.02 (110.02), or 1110.03 (110.03), or equiv. Not open to students with credit for Linguist 307. GE soc sci indivs and groups and diversity global studies course.

3502 Klingon, Elvish, Dothraki: The Linguistics of Constructed Languages U 3

Constructed languages like Klingon, Elvish, and Dothraki may seem like the province of ComiCon goers, but they have a long and varied intellectual history. Constructed languages require a deep understanding of both the mechanics of language and how languages relate to the cultures that they come from. This course examines the linguistic complexity of constructed languages.

3601 Language, Race, and Ethnicity in the U.S. U 3

Objective examination of the relationship between language, race and ethnicity in the context of varieties of English used by minority ethnic and racial groups in the U.S.
Prereq: English 1110.01 (110.01), 1110.02 (110.02), or 1110.03 (110.03), or equiv. Not open to students with credit for Linguist 303 or AfAmASl 303. GE cultures and ideas and diversity soc div in the US course.

3602 Language and Social Identity in the U.S. U 3

Relationships between language and social diversity in the general American speech community; discussion of how individuals and social groups distinguish themselves on the basis of language.
Prereq: Not open to students with credit for Linguist 372. GE soc sci indivs and groups and diversity soc div in the US course.

3603 Language Across Cultures U 3

Investigation of relationships between language and culture in different societies with a view to shedding light on cross-cultural similarities and differences.
Prereq: English 1110.01 (110.01), 1110.02 (110.02), or 1110.03 (110.03), or equiv. Not open to students with credit for Linguist 375. GE soc sci indivs and groups and diversity global studies course.

3701 Language and the Mind U 3

Introduction to the psychological processes for producing and understanding speech, the means by which they arise in the child, and bases in the brain.
Prereq: 2000 (201), 2000H (200H), 5000 (4000), Psych 1100 (100), or 1100H (100H). Not open to students with credit for 371, 3701H (371H), Psych 3371 (371), or 3371H (371H). GE soc sci indivs and groups course. Cross-listed in Psych 3371.

3701H Language and the Mind U 3

Introduction to the psychological processes for producing and understanding speech, the means by which they arise in the child, and bases in the brain.
Prereq: Ling 2000 (Linguist 201), 2000H (201H), 4000 (601), or Psych 1100 (100), or permission of instructor. Not open to students with credit for Linguist 371, 371H, Psych 3371 (371), or 3371H (371H). GE soc sci indivs and groups course. Cross-listed in Psych 3371H.

3801 Codes and Codebreaking U 3

Introduction to old and new technology associated with codes and code-breaking and the ways in which it has impacted people's lives.

3802 Language and Computers U 3

Introduction to human language technology, explaining the computational and linguistic principles behind such familiar technologies as web search, machine translation, and spelling correction.

Prereq: Soph standing or above. Not open to students with credit for Linguist 384. GE quant reason math and logical anly course.

3802H Language and Computers U 3

Introduction to human language technology, explaining the computational and linguistic principles behind such familiar technologies as web search, machine translation, and spelling correction.

Prereq: Honors standing. Not open to students with Fresh standing. GE quant reason math and logical anly course.

3901 Language Evolution and Language Change U 3

A study of how and why languages change and evolve over time, taking into account the linguistic, historical, ideological and cultural factors involved.

Prereq: Not open to students with credit for Linguist 301. GE cultures and ideas course. Cross-listed in NELC 3101.

4100 Phonetics U 3

Cross-linguistic survey of the sounds of the world's languages.

Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601). Not open to students with credit for Ling 5101 (Linguist 600.01).

4193 Individual Studies U 1 - 3

Individual Studies.

Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4194 Group Studies U 1 - 3

Study of topics not regularly scheduled for seminars in linguistics, under the direction of a faculty member.

Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4200 Syntax U 3

Basic elements of syntactic description and an overview of syntactic structure across languages.

Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601). Not open to students with credit for Ling 5201 (Linguist 602.01).

4300 Phonology U 3

Introduction to phonological analysis and description, and an overview of phonological structure across languages.

Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601). Not open to students with credit for Ling 5301 (Linguist 603.01).

4350 Morphology	U 3	5201 Syntactic Theory I	U G 3
The grammatical and phonological analysis of words, and their significance in linguistic structure.		Theories of syntax; principles of syntactic description.	
Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601).		Prereq: 4200 (Linguist 502) or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 602.01.	
4400 Linguistic Meaning	U 3	5202 Syntactic Theory II	U G 3
Introduction to linguistic meaning across languages, including word meaning, the contribution of syntactic structure, and the role of context in interpretation.		Theories of syntax; principles of syntactic description.	
Prereq: 2000 (201), 2000H (201H), or 4000 (601).		Prereq: Ling 5201 (Linguist 602.01). Not open to students with credit for Linguist 602.02.	
4597.01 Language Endangerment and Language Death	U 3	5301 Phonological Theory I	U G 3
Examines language endangerment and language death to reach an understanding of the forces threatening the survival of over half of today's 6,000 languages.		Introduction to phonological analysis and the principles governing the structure, acquisition, and change of phonological systems; survey of major phonological theories.	
Prereq: Jr or Sr standing. Not open to students with credit for Linguist 597.01. GE cross-disciplinary seminar course.		Prereq: 4100 (Linguist 500), 4300 (503), or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 603.01.	
4597.02 Language and the Law	U 3	5302 Topics in Advanced Phonology	U G 3
Examination of the role of interpretation of language in the law and in legal proceedings, with special consideration of issues in comparative law and multi-lingual jurisdictions.		Introduction to phonological analysis and the principles governing the structure, acquisition, and change of phonological systems; survey of major phonological theories.	
Prereq: Jr or Sr standing. Not open to students with credit for Linguist 597.02. GE cross-disciplinary seminar course.		Prereq: 5301 or Linguist 603.01. Not open to students with credit for Linguist 603.02. Repeatable to a maximum of 9 cr hrs.	
4780 Undergraduate Research Seminar	U 3	5351 Morphological Theory	U G 3
Linguistics students learn about cutting-edge research by OSU linguists and get hands-on experience conducting their own linguistic research.		Introduction to and comparison of current theories of morphology with application to linguistic data and problems.	
Prereq: Ling 4100, 4200, or 4300, and enrollment in Ling major; or permission of instructor.		Prereq: 2000 (Linguist 201), 2000H (201H), or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 609.	
4797 Study at a Foreign Institution	U 1 - 30	5401 Semantic Theory I	U G 3
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as travel and subsistence costs.		Problems and methods in linguistic semantics, using logic and semantic model theory as analytic tools; reference, compositionality, presupposition, conversational implicature, speech acts, deixis.	
Prereq: Permission of department. Repeatable to a maximum of 30 cr hrs or 30 completions.		Prereq: 4400 or 5000 (Linguist 601); or permission of instructor. Not open to students with credit for Linguist 683.01.	
4998 Undergraduate Research	U 1 - 10	5402 Semantic Theory II	U G 3
Undergraduate research or creative activities in various topics.		Montague semantics and more recent semantic theories; analysis of important problems, such as generalized quantifiers, lattice-based accounts of plurals and events, discourse representation theory.	
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 15 completions. This course is graded S/U.		Prereq: Ling 5401 (Linguist 683.01). Not open to students with credit for Linguist 683.02.	
4998H Undergraduate Research	U 1 - 10	5410 Natural Language Metaphysics	U G 3
Research: assigned reading and individual research.		Natural languages seem to presuppose that the world is a certain way. In many cases, the presuppositions are philosophically (or scientifically) contentious. We will explore a variety of such cases noting the ramifications for both metaphysics and for semantics. Team-taught course with faculty member in Philosophy.	
Prereq: Honors standing and permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions. This course is graded S/U.		Prereq: 5001, or 5401; or Philos 2500 and 6 cr hrs in Philos at or above 3000-level; or Grad standing in Philos; or permission of instructor. Ling 5410 and Philos 5610 repeatable to a maximum of 6 cr hrs. Cross-listed in Philos 5610.	
4999 Undergraduate Thesis Research	U 1 - 10	5501 An Introduction to African-American English	U G 3
Undergraduate research or creative activities in various topics culminating in a research thesis and oral defense.		Introduction to the structure and history of the varieties of English used by African-Americans and the relationship between language use and socio-cultural context.	
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.		Prereq: One Linguistics course taken at the 4000 level (300 level) or above. Not open to students with credit for AfAmAST 5501 or 605.	
4999H Honors Undergraduate Thesis Research	U 1 - 10	5551 Field Methods I	U G 3
Honors undergraduate research or creative activities in various topics, culminating in a research thesis and oral defense.		Methodology for determining the phonological system of a previously unknown language through the use of a native informant.	
Prereq: Honors standing, and permission of instructor and the Arts and Sciences Honors Committee. Repeatable to a maximum of 10 or hrs or 5 completions. This course is graded S/U.		Prereq: Two courses from two of the following three groups: 4100 (Linguist 500) or 5101 (600); 4200 (502) or 5201 (602.01); or 4300 (503) or 5301 (603.01); or permission of instructor. Repeatable to a maximum of 24 cr hrs.	
5001 Formal Foundations of Linguistics	U G 3	5601 Introduction to Sociolinguistics	U G 3
Applying tools from set theory, symbolic logic, model theory, algebra and formal grammar in the foundations of formal linguistic theories and in linguistic analysis.		Survey of approaches to the study of language in its social context: sociology of language, ethnography of speaking, discourse analysis, quantitative sociolinguistics.	
Prereq: 2000, 2000H, 2001, Philos 2500, Math 2366, or 3345; or Grad standing; or permission of instructor. Not open to students with credit for Linguist 680.		Prereq: Two Ling courses 2000 (Linguist 201) or above, or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 661.01.	
5050 Technical Tools for Linguists	U G 3	5602 Introduction to Quantitative Sociolinguistics	U G 3
Practical training in standard computational tools for tackling different kinds of linguistic research. Students will learn computational techniques to access, search and format linguistic datasets, including text corpora, speech and audio, structured representations such as parse trees, and experimental measurements. The course will also cover data exploration and basic modeling.		Exploration of language in its social context through the methods of quantitative analysis of linguistic variation, including the Labovian and implicational models.	
Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601).		Prereq: 5601 (Linguist 661.01). Not open to students with credit for Linguist 661.02.	
5051 Quantitative Methods	U G 3	5603 Sociolinguistic Field Methods	U G 3
Quantitative methods in the sub-disciplines of Linguistics, including data analysis, interpretation and display of data, inferential statistics, and statistical modeling.		Research methods for sociolinguistic fieldwork including interviewing, observation, survey design and experimental work. Focus on methodology, planning and implementation.	
Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601).		Prereq: 5601 (Linguist 661.01).	
5101 Phonetics: Phonetic Theory	U G 3	5651 Languages in Contact	U G 3
Principles of articulatory phonetics, with some discussion of acoustic phonetics; practice in the production, recognition, and transcription of sounds in various languages of the world.		Study of the effects of language contact on the structure of the involved languages, and of the characteristics of the individuals and communities involved in language contact.	
Prereq: 4100 (Linguist 500), 4300 (503), or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 600.01.		Prereq: Two Ling courses 2000 (Linguist 201) or above; or Grad standing.	
5102 Laboratory Phonology	U G 3		
Introduction to laboratory methods and quantitative models of speech for linguistics.			
Prereq: Ling 5101 (Linguist 600.01). Not open to students with credit for Linguist 600.02.			

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5700 Training in Informal Science Outreach	U G	3	7890.02 Seminar Discussion Groups: Syntax	G	1 - 3			
The purpose of this course is to provide students with hands-on training in informal science education at the COSI museum. All students will learn to provide outreach education at the museum; advanced students will develop outreach materials, assist in the visible research operations, and mentor other students.								
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in Psych and EduTL.								
5701 Psycholinguistics I	U G	3	7890.03 Seminar Discussion Groups: Phonetics/Phonology	G	1 - 3			
An introduction to high-level language processing, word recognition, sentence understanding, and discourse processing.								
Prereq: 3701 (Linguist 371), 3701H (371H), or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 615.								
5703 Eye Tracking Methods for Psycholinguistics	U G	3	7890.04 Seminar Discussion Groups: Pragmatics	G	1 - 3			
A hands-on laboratory course focusing on current techniques for monitoring eye movements as a measure of language processing. We will discuss preparation of auditory and screen-based/real world visual stimuli, and methods for aggregating and analyzing eye movement data. Students will have access to Tobii and ASL Mobile eye trackers.								
Prereq: Ling 3701H (Linguist 371H) or 5701 (615).								
5801 Computational Linguistics I	U G	3	7890.05 Seminar Discussion Groups: Language Acquisition Research Group	G	1 - 3			
Symbolic and probabilistic computation applied to the structure of words and sentences, models of syntax, parsing algorithms.								
Prereq: 3802 (Linguist 384), 5000 (601), CSE 3321, 3521, or 5052; or permission of instructor. Not open to students with credit for Linguist 684.01.								
5802 Computational Linguistics II	U G	3	7890.06 Seminar Discussion Groups: Sociolinguistics/Historical Linguistics	G	1 - 3			
Computational models of language acquisition and application of machine learning techniques to language processing.								
Prereq: Ling 5801 (Linguist 684.01). Not open to students with credit for Linguist 684.02.								
5803 Computational Semantics	U G	3	7890.07 Seminar Discussion Groups: Psycholinguistics	G	1 - 3			
Methods for construction semantic representations for fragments of natural language and performing inference with such representations.								
Prereq: 5801 (Linguist 684.01). Not open to students with credit for Linguist 684.03.								
5804 Analyzing Language in Social Media	U G	3	7890.08 Seminar Discussion Groups: Computational Linguistics	G	1 - 3			
Course gives students experience analyzing language in social media. It covers theoretical issues arising in digital communication and provides hands-on practice at computational data analysis, applicable across fields. Students gain an understanding of the sociolinguistic dynamics of online communication and the technical skills to conduct research on them. Team-taught w/ faculty in English.								
Prereq: Not open to students with credit for English 5804. Cross-listed in English.								
5891 Proseminar in Cognitive Science	U G	2	7890.09 Seminar-Discussion Group on LLIC (Language, Logic, Information, and Computation)	G	1 - 3			
Provides an in-depth examination of cognitive science from an interdisciplinary perspective.								
Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs. Cross-listed in CSE, Psych, Philos, and SphHrng.								
5901 Introduction to Historical Linguistics	U G	3	This discussion group introduces, discusses and reviews the technical details of formal methods in linguistics.					
Introduction to the methods and principles of historical linguistics.								
Prereq: 4100 (Linguist 500), 5101 (600.01), 4300 (503), 5301 (603.01), or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 611.								
5906 Topics in Indo-Iranian Linguistics	U G	1 - 3	7890.10 Seminar Discussion Groups: Topics in Linguistics	G	1 - 3			
Possible topics include advanced classical Sanskrit, introductory Vedic Sanskrit, Indo-Iranian or Indo-Aryan linguistics, or studies in the ancient Indian grammarians.								
Repeatable to a maximum of 9 cr hrs or 3 completions.								
6000 Teaching Introductory Linguistics	G	1	7890.11 Sociolinguistic Meaning Discussion Group	G	1 - 3			
Designed to train instructors in the techniques and materials used to teach introductory linguistics courses.								
Prereq: Not open to students with credit for Linguist 830. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.								
6001 Proseminar in Linguistics	G	2	7901 Historical Linguistics: Phonology	G	3			
Introduction to the problems, methods, and tools of linguistic research. Recommended for all candidates for grad degrees.								
Repeatable to a maximum of 50 cr hrs. This course is graded S/U.								
6193 Individual Studies	G	1 - 12	An introduction to the methods, conventions, and literature of comparative-historical linguistics with primary attention to the comparison and reconstruction of Indo-European phonological systems.					
Individual Studies.								
Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.								
6194 Group Studies	G	1 - 3	Prereq: Ling 4000 (Linguist 601) and 5901 (611), or permission of instructor. Not open to students with credit for Linguist 801.					
Study of topics not regularly scheduled for seminars in linguistics, under the direction of a faculty member.								
Prereq: Ling 4000 (Linguist 601). Repeatable to a maximum of 24 cr hrs or 8 completions.								
7890.01 Seminar Discussion Groups: TA Workshop	G	1 - 3	7902 Historical Linguistics: Morphology	G	3			
A selected group study, with emphasis on individual writing and presentation.								
Prereq: 5000 level or above course in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.								
8100 Seminar in Phonetics	G	1 - 3	8100 Seminar in Phonetics	G	1 - 3			
Study of specific problems in articulatory and acoustic phonetics at an advanced level.								
Prereq: 5101 (Linguist 600.01). Repeatable to a maximum of 18 cr hrs.								
8193 Individual Studies	G	1 - 9	8193 Individual Studies	G	1 - 9			
Assigned reading and individual research.								
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.								

8200 Seminar in Syntax	G	1 - 3	6211 Accounting for Decision Making	G	3
Advanced topics in syntactic analysis. Prereq: 5202 (Linguist 602.02). Repeatable to a maximum of 18 cr hrs.			Examines the role of accounting and financial reporting by investors and managers for decision-making and performance evaluation. Prereq: Enrollment in MBA program or permission of instructor. Not open to students with credit for 800 or 801.		
8300 Seminar in Phonology	G	1 - 3	6220 Finance	G	3
Advanced topics in phonological analysis. Prereq: 5302 (Linguist 603.02). Repeatable to a maximum of 18 cr hrs or 6 completions.			Course covers time value of money, risk and return, investment criteria, capital budgeting, market efficiency, derivatives, and interest rate parity. Prereq: Enrollment in Executive MBA program or Working Professional MBA program; or permission of instructor. Not open to students with credit for 810.		
8350 Seminar in Morphology	G	1 - 3	6222 Finance II	G	1½
Advanced topics in morphological analysis. Repeatable to a maximum of 18 cr hrs or 18 completions.			Covers capital budgeting, market efficiency, derivatives, interest rate parity. Prereq: Enrollment in MBA or MAcc program, or permission of instructor. Not open to students with credit for 810 or BusFin 811.		
8400 Seminar in Semantics	G	1 - 3	6223 Finance	G	3
Accounts of semantic judgments in languages, especially within the theory of generative grammar; relationships between syntax, semantics, and language use. Prereq: 5202 (Linguist 602.02). Repeatable to a maximum of 18 cr hrs.			A market-oriented framework for analyzing the major types of financial decisions made by corporations. The course covers the following topics: present value techniques, capital budgeting, asset valuation, portfolio theory, asset pricing, market efficiency, options, capital structure, financial distress, financial modeling, risk management, mergers and acquisitions and ethics. Prereq: Enrollment in the MBA or WPMBA program. Not open to students with credit for 6221, 6222, or BusFin 810 or 811.		
8450 Seminar in Pragmatics	G	1 - 3	6230 Operations Management	G	1 - 3
An intensive examination of one or more major problems in pragmatics, such as speech acts, implicature, or presupposition. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.			How the operations function contributes to ensuring effective and efficient flow of materials and information within and outside the organization. Prereq: Enrollment in Executive MBA program or Working Professional MBA program; or permission of instructor. Not open to students with credit for 850. Repeatable to a maximum of 3 cr hrs. This course is progress graded.		
8600 Seminar in Sociolinguistics	G	1 - 3	6231 Operations Management I	G	1½
Advanced topics in sociolinguistics. Prereq: 5601 (Linguist 661.01). Repeatable to a maximum of 18 cr hrs or 18 completions.			How the operations function contributes to ensuring effective and efficient flow of materials and information within and outside the organization. Prereq: Enrollment in MBA or permission of instructor. Not open to students with credit for 850.		
8650 Seminar in Contact Linguistics	G	1 - 3	6232 Operations Management II	G	1½
The goal of this seminar is to explore in some detail the methodological frameworks and theoretical issues that relate to the origins and development of various outcomes of language contact. Prereq: Ling 5651 (Linguist 685). Repeatable to a maximum of 18 cr hrs or 18 completions.			How the operations function contributes to ensuring effective and efficient flow of materials and information within and outside the organization. Continuation of 6231. Prereq: 6231 and enrollment in MBA or WPMBA program or permission of instructor. Not open to students with credit for 850.		
8700 Seminar in Psycholinguistics	G	1 - 3	6233 Operations Management	G	3
Advanced topics in psycholinguistics. Prereq: Ling 5701 (Linguist 615). Repeatable to a maximum of 18 cr hrs or 18 completions.			Operations Management (MBA 6233) is designed to provide a solid foundation and deeper understanding of how the operations function contributes to ensuring effective and efficient flow of materials and information within and outside the organization. Prereq: Enrollment in MBA, or permission of instructor. Not open to students with credit for 850.		
8800 Seminar in Computational Linguistics	G	1 - 3	6240 Organizations, Markets and Management-EMBA	G	3
Advanced topics in computational linguistics. Prereq: 5802. Repeatable to a maximum of 18 cr hrs.			Microeconomics from a management and organizational perspective, developing a framework grounded in the fundamentals of economic theory. Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for 812.		
8900 Seminar in Historical Linguistics	G	1 - 3	6241 Organizations, Markets and Management	G	2½
Advanced topics in methods and principles of diachronic analysis. Prereq: 5901 (Linguist 611), or permission of instructor. Repeatable to a maximum of 18 cr hrs.			Microeconomics from a management and organizational perspective, developing a framework grounded in the fundamentals of economic theory. Prereq: Enrollment in MBA or WPMBA program or permission of instructor. Not open to students with credit for 812.		
8998 Non-thesis graduate research	G	1 - 15	6243 Organizations, Markets and Management	G	3
Non-thesis graduate research. Repeatable to a maximum of 15 ch or 15 completions. This course is graded S/U.			Microeconomics from a management and organizational perspective, developing a framework grounded in the fundamentals of economic theory. Prereq: Enrollment in MBA or WPMBA program, or permission of instructor. Not open to students with credit for 812.		
8999 Thesis/Dissertation Research in Linguistics	G	1 - 10	6250 Marketing Management	G	3
Research for thesis and dissertation purposes only. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.			Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment. Prereq: Enrollment in Executive MBA program or Working Professional MBA program or permission of instructor. Not open to students with credit for 840.		

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6200 Organizational Behavior, Teamwork and Leadership- EMBA	G	3	6251 Marketing Management I	G	1½
An overview of factors that influence individual, group and organizational work performance and techniques to improve it; analytical frameworks for determining effectiveness of given techniques in specific circumstances. Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for 860.			Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment. Prereq: Enrollment in Executive MBA program or Working Professional MBA program or permission of instructor. Not open to students with credit for 840.		
6201 Organizational Behavior	G	1½	6252 Marketing Management II	G	3
An overview of factors that influence individual and team performance and techniques to improve it; analytical frameworks for determining effectiveness of given techniques in specific circumstances. Prereq: Enrollment in MBA or WPMBA program; or permission of instructor. Not open to students with credit for 860.			Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment. Prereq: Enrollment in MBA or WPMBA program, or permission of instructor. Not open to students with credit for 812.		
6202 Leadership	G	1½	6253 Marketing Management III	G	3
An overview of factors that influence individual and team performance and techniques to improve it; analytical frameworks for determining effectiveness of given techniques in specific circumstances. Prereq: Enrollment in MBA or WPMBA program; or permission of instructor. Not open to students with credit for 860.			Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment. Prereq: Enrollment in MBA or WPMBA program, or permission of instructor. Not open to students with credit for 812.		
6204 Professional Development: Leadership and Team Effectiveness-EMBA	G	3	6254 Marketing Management IV	G	3
Skills enhancement in professional teamwork and leadership roles. Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for BusMHR 801.			Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment. Prereq: Enrollment in MBA program or permission of instructor. Not open to students with credit for 840.		
6210 Accounting for Decision Making-EMBA	G	3	6255 Marketing Management V	G	3
Uses of Accounting by Managers. Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for 802.			Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment. Prereq: Enrollment in MBA program or permission of instructor. Not open to students with credit for 840.		

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6252	Marketing Management II	G	1½		2194	Group Studies in Materials Science and Engineering	U	0 - 6
	Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment. Continuation of 6251.				Special topics in MSE not offered in other courses.			
	Prereq: 6251 and enrollment in MBA or permission of instructor. Not open to students with credit for 840.				Repeatable to a maximum of 12 cr hrs or 8 completions.			
6253	Marketing	G	3		2241	Structure and Characterization of Materials	U	3
	Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment. Prereq: Enrollment in MBA program, or permission of instructor. Not open to students with credit for 840.				Atomic structure of materials and its determination using X-ray diffraction techniques. Introduction crystalline defects and microstructure. Characterizing and quantifying materials microstructure using optical and electron microscopy.			
6260	Global Environment of Business-EMBA	G	3		Prereq: 2010, Physics 1250 or 1260, Math 1151 or 1161, and Chem 1210 or 1250; and enrollment as MatScEn-BS student; or permission of instructor. Not open to students with credit for both 341 and 342.			
6261	Global Environment of Business	G	1½		2251	Thermodynamics of Materials	U	3
	Political, economic, social and technological forces shaping today's global business environment.				Fundamental basis of three laws of thermodynamics, phase equilibria, reaction equilibria, solution theory, and phase diagrams and electrochemistry.			
	Prereq: Enrollment in Executive MBA program, or permission of instructor. Not open to students with credit for 820.				Prereq: 2010, Physics 1250 or 1260, Math 1151 or 1161, and Chem 1210 or 1250; and enrollment as MatScEn-BS or WeldEng-BS student; or permission of instructor. Not open to students with credit for both 401 and 525.			
6270	Data Analysis for Managers-EMBA	G	3		2321	Modeling and Simulation Lab I	U	3
	Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making.				A modeling and simulation laboratory appropriate to sophomore-level study in materials science and engineering.			
	Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for 870.				Prereq: 2010, Physics 1250 or 1260, Math 1151 or 1161, and Chem 1210 or 1250; and enrollment as MatScEn-BS student; or permission of instructor.			
6271	Data Analysis for Managers	G	2½		2331	Structure and Characterization Lab	U	2
	Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making.				Companion laboratory course to MatScEn 2241. Experiments on X-ray diffraction, scanning electron microscopy, optical microscopy, and stereology with applications. Statistical treatment of data and technical reporting.			
	Prereq: Enrollment in MBA or WPMBA program or permission of instructor. Not open to students with credit for 870.				Prereq: 2010, Physics 1250 or 1260, Math 1151 or 1161, and Chem 1210 or 1250; and enrollment as MatScEn-BS student; or permission of instructor. Not open to students with credit for 282.			
6273	Data Analysis for Managers	G	3		3141	Transformation and Processing of Materials	U	3
	Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making.				Introduction to transformations, and the relationship between microstructure, properties, and processing in metals, ceramics, semiconductors, and polymers.			
	Prereq: Enrollment in MBA or WPMBA program, or permission of instructor. Not open to students with credit for 6271 or 870.				Prereq: 2251, and enrollment as MatScEn-BS or WeldEng-BS major; or permission of instructor.			
6281.01	Professional Development	G	1½		3151	Transport Phenomena and Kinetics	U	3
	Professional development and skill set enhancement in the areas of leadership, self-awareness, team-based work and ability to adapt to work life in the context of different organizational and global cultures.				Provides students with concepts related to transport phenomena and kinetics as applied to processing of metals, ceramics, polymers, and composite materials.			
	Prereq: Enrollment in MBA program.				Prereq: 2010 and 2241; and Math 2177 or 2415; or 2174; and enrollment as MatScEn-BS major; or permission of instructor. This course is available for EM credit.			
6281.04	Professional Development	G	1½		3189	Professional Practice in Industry	U	½ - 3
	Professional development and skill set enhancement in the areas of leadership, self-awareness, team-based work and ability to adapt to work life in the context of different organization and global cultures.				Preparation of a comprehensive report based on employment experience in a co-op or job in industry.			
	Prereq: Enrollment in MBA program, or permission of instructor.				Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.			
6290	Strategy Formulation & Implementation-EMBA	G	3		3193.01	Individual Studies in Materials Science & Engineering	U	½ - 6
	Focuses on the determination of the strategic direction of the firm and the management of the strategic process.				Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.			
	Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for 980.				Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
6291	Strategy Formulation & Implementation	G	2½		3193.02	Individual Studies in Materials Science & Engineering	U	½ - 6
	Focuses on the determination of the strategic direction of the firm and the management of the strategic process.				Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.			
	Prereq: Enrollment in MBA or WPMBA program or permission of instructor. Not open to students with credit for 980.				Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.			
6293	Strategy Formulation & Implementation	G	3		3261	Introduction to the Mechanical Behavior of Materials	U	3
	Focus on the determination of the strategic direction of the firm and the management of the strategic process.				Survey of the mechanical response of solids to forces and stresses. Responses studied include elastic, viscoelastic, plastic deformation and fracture.			
	Prereq: Enrollment in MBA or WPMBA program, or permission of instructor. Not open to students with credit for 980 or 6290 or 6291.				Prereq: 2010, MechEng 2040, and enrollment as MatScEn-BS student; or permission of instructor. Not open to students with credit for both 361 and 564.			
2010	Introduction to Engineering Materials	U	3		3271	Electronic Properties	U	3
	Introduction to the properties (mechanical, electrical, thermal, diffusive, degradative, magnetic, optical), structure, and processing of engineering materials, including ceramic, metals, polymers, biological, and composite materials.				Introduction to structure, property, and applications of electronic materials. Includes electronically and ionically conducting materials, dielectrics, and optical and magnetic materials.			
	Prereq: Physics 1250 or 1260, Math 1151 or 1161, and Chemistry 1210 or 1250; or permission of instructor. Not open to students with credit for 205.				Prereq: 2010; and Math 1151 or 1161; and Physics 1251 or 1261; and enrollment as MatScEn-BS student; or permission of instructor. Not open to students with credit for 371.			
3321	Modeling and Simulation Lab II	U	2		3321	Modeling and Simulation Lab II	U	2
	Modeling and simulation techniques appropriate to junior-level study in materials science and engineering.				Modeling and simulation techniques appropriate to junior-level study in materials science and engineering.			
	Prereq: 2321, 3141, and 3151, and enrollment as MatScEn-BS student; or permission of instructor.				Prereq: 2321, 3141, and 3151, and enrollment as MatScEn-BS student; or permission of instructor.			
3331	Materials Science and Engineering Lab I	U	2		3331	Materials Science and Engineering Lab I	U	2
	Laboratory experiments related to materials processes and properties. Introduction to experimental techniques used in materials fields. Data analysis, presentation, and technical writing skills.				Laboratory experiments related to materials processes and properties. Introduction to experimental techniques used in materials fields. Data analysis, presentation, and technical writing skills.			
	Prereq: 2331, and enrollment as MatScEn-BS major; or permission of instructor. Not open to students with credit for both 581.01 and 581.02.				Prereq: 2331, and enrollment as MatScEn-BS major; or permission of instructor. Not open to students with credit for both 581.01 and 581.02.			

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2010	Introduction to Engineering Materials	U	3	
	Introduction to the properties (mechanical, electrical, thermal, diffusive, degradative, magnetic, optical), structure, and processing of engineering materials, including ceramic, metals, polymers, biological, and composite materials.			

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3332	Materials Science and Engineering Lab II	U	2
Laboratory experiments related to materials application and performance. Advanced experimental techniques and analysis in these areas. Technical writing skills at fully professional level.			
Prereq: 2241, 2331, and 2251; and enrollment as MatScEn-BS student; or permission of instructor. Not open to students with credit for both 581.02 and 581.03.			
3333	Materials Science and Engineering Laboratory for Welding Engineering Students	U	2
Lab experiments related to heat treating, casting, welding, materials characterization, and properties. Introduction to experimental techniques in materials science. Development of technical writing skills.			
Prereq: WeldEng 3001 and 3601; and enrollment as WeldEng-BS major; or permission of instructor. Not open to students with credit for 581.04. Not open to students majoring in MatScEn.			
3611	Biological Response to Biomaterials	U	3
The biological response to biomaterials implanted within the human body.			
Prereq: 2010, and Biology 1113 or 2100; or permission of instructor. Not open to students with credit for 645 and 646.			
4181	Materials Selection	U	2
Systematic and quantitative strategies for selecting materials and processes as a foundation for designing with materials.			
Prereq: 2241, 2331, 2251, 2321, and enrollment as MatScEn-BS major; or permission of instructor. Not open to students with credit for 600.			
4193.01	Individual Studies in Materials Science & Engineering	U	½ - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
4193.02	Individual Studies in Materials Science & Engineering	U	½ - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.			
4194	Group Studies in Materials Science and Engineering	U	0 - 6
Special topics in Materials Science and Engineering.			
Repeatable to a maximum of 12 cr hrs or 8 completions.			
4321	Modeling and Simulation-Based Design	U	3
Practical modeling and simulation techniques appropriate to senior-level design in materials science and engineering.			
Prereq: 2321, 3321, and enrollment as MatScEn-BS major; or permission of instructor.			
4381	Design and Professional Practice I	U	3
An in-depth design project to foster independent thinking and to develop problem-solving skills. Design of experiments, applied statistics, presentation and communication skills will be discussed.			
Prereq: 3141, 3151, and 3331. Prereq or concur: 3261, 3271, or 3332, and enrollment as MatScEn-BS major; or permission of instructor. Not open to students with credit for both 695.01 and 695.02.			
4382	Design and Professional Practice II	U	3
An in-depth design project to foster independent thinking and to develop problem-solving skills. Design of experiments, applied statistics, presentation and communication skills will be discussed.			
Prereq: 4381, and enrollment as MatScEn-BS major; or permission of instructor. Not open to students with credit for both 695.02 and 695.03.			
4998	Undergraduate Research	U	½ - 3
Supervised undergraduate research on various topics.			
Repeatable to a maximum of 6 cr hrs or 6 completions.			
4999	Undergraduate Research	U	½ - 3
Supervised undergraduate research on topics in Materials Science & Engineering.			
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.			
4999H	Undergraduate Honors Research	U	½ - 3
Supervised research and project work arranged individually for honors students on topics in Materials Science & Engineering.			
Prereq: Honors standing, Sr standing in MatScEn major, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.			
5193.01	Individual Studies in Materials Science & Engineering	U G	0 - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
5193.02	Individual Studies in Materials Science & Engineering	U G	0 - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.			

5194	Group Studies in Materials Science & Engineering	U G	0 - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.			
Repeatable to a maximum of 12 cr hrs or 8 completions.			
5321	Computational Thermodynamics and Kinetics	U G	2
Comprehensive background on computational thermodynamics and kinetics. Includes focus on CALPHAD (Calculation of Phase Diagram) methodology.			
Prereq: 2251 and 3151 or equivs, or Grad standing in MatScEn or WeldEng; or permission of instructor. Cross-listed in WeldEng 4121 and 7121.			
5431	Advanced Metals Laboratory	U G	1
Advanced laboratory covering various topics in metallic materials.			
Prereq: 2241, 2331, 3141, 3261, and 3332. Prereq or concur: 5441 or 5451; or permission of instructor. Not open to students with credit for 669, or to Grad students enrolled in MatScEn or WeldEng.			
5441	Physical Metallurgy	U G	3
Physical metallurgy of ferrous and non-ferrous alloys. Emphasis on alloy design, processing and structure-property relations.			
Prereq: 3141, 3261, and enrollment as MatScEn-BS major student; or Grad standing; or permission of instructor. Not open to students with credit for 661 and 663.			
5451	Molten Metal Processing	U G	3
An advanced class in application of thermodynamics, kinetics, and macro-transport phenomena to primary metals production, refining, and solidification processing.			
Prereq: 2251 or 3151; or Grad standing; or permission of instructor. Not open to students with credit for 667, 668, 5451, ISE 5502, or 651.02. Cross-listed in ISE 5502.			
5531	Ceramics Processing Laboratory	U G	1
Laboratory experiments involving synthesis/fabrication and characterization of high performance technical ceramics.			
Prereq: 3141, 3261, 3271, 3332, and enrollment as MatScEn-BS major; or permission of instructor. Not open to students with credit for 619.			
5532	Electronic, Optical, and Magnetic Properties Laboratory	U G	1
Correlates electronic, optical, and magnetic properties of materials with structure, composition, and microstructure. Examples include resistivity, the Hall effect, and ferromagnetic/ferroelectric hysteresis.			
Prereq: 3141, 3261, 3271, 3332, and enrollment as MatScEn-BS major student; or permission of instructor. Not open to students with credit for 679.			
5551	Ceramic Processing	U G	3
Overview of ceramics processing, including essential topics of: powder synthesis/characterization, colloidal/sol-gel processing, shaping/consolidation, sintering, microstructure development and nanoceramics, and thin films/coating.			
Prereq: 3141, 3151, and enrollment as MatScEn-BS major; or Grad standing; or permission of instructor. Not open to students with credit for 615.			
5552	Nanoscale Synthesis and Processing of Electronic Materials	U G	3
Processing, structure and stability of materials in micro(nano)electronics. Thin film epitaxy, semiconductor heterostructures, quantum confinement, bandgap engineering, electronic properties of defects, nanolithography, self-assembled nanostructures.			
Prereq: 3141 and 3271, or permission of instructor. Not open to students with credit for 676.			
5571	Electroceramics	U G	3
Functional ceramics covering electrical, magnetic and optical properties of oxides. Emphasis is on the processing-microstructure-property correlation.			
Prereq: 3271, or permission of instructor. Not open to students with credit for 614.			
5572	Materials for Energy Technology	U G	3
Structure property relationships of materials in energy applications. Photovoltaic materials, solid state photonic materials, electrochemical devices such as batteries, fuel cells and chemical sensors, superconductors, memory and nuclear materials.			
Prereq: 2241, and 3271 or ECE 2300; and enrollment as MatScEn-BS major; or Grad standing; or permission of instructor.			
5605	Quantitative Introduction to Materials Science	U G	3
A quantitative survey of the key elements related to the processing, structure and properties of materials. Structural materials and core aspects are emphasized. Intended for MS/PhD students enrolled in MatScEn who come from a non-MatScEn background.			
Prereq: Grad standing in MatScEn or WeldEng; or permission of instructor. Not open to students with credit for 2010, 6605, or 605, or to students enrolled in MatScEn-BS.			
5611	Materials in Medicine	U G	3
The materials science of plastics, metals and ceramics currently used to replace or supplement tissues within the human body.			
Prereq: 2010 and 3611; or Grad standing; or permission of instructor. Not open to students with credit for both 645 and 646.			
5631	Biomaterials Laboratory	U G	1
A laboratory experience in the processing and characterization of biomaterials used for the replacement of human tissues.			
Prereq or concr: 5611 or 5641; or permission of instructor. Not open to students with credit for 649.			

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5641	Structure-Property Relationships of Polymers	U G	3		6730	Thermodynamics of Materials	G	3
	An understanding of the structure/property relationships that drive the continued expansion of polymers into a wide array of applications.				Thermodynamics of mixtures and phase equilibria relevant to metallurgy and materials science.			
	Prereq: 2010, CPHR 2.0 or higher, and rank 3 or 4 in Engineering; or Grad standing; or permission of instructor. Not open to students with credit for both 642 and 643.				Prereq: Grad standing or permission of instructor. Not open to students with credit for 730.			
5651	Biomaterials Processing	U G	3		6735	Corrosion Science and Materials Electrochemistry	G	2
	The relationship between the processing of biomaterials - metals, polymers and ceramics - and the impact that these steps have on final biomedical properties.				Electrochemistry fundamentals, corrosion thermodynamics and kinetics, experimental approaches, corrosion phenomenology, corrosion control strategies, nonmetallic material degradation, electrochemistry of batteries, fuel cells, and electrodeposition.			
	Prereq: 5611 or 5641; or permission of instructor.				Prereq: Grad standing in MatScEn or permission of instructor. Not open to students with credit for 735.			
5711.70	Introduction to Composites	U G	1½		6737	Diffusion and Interface Kinetics	G	3
	In this seven-week course, students will gain the theoretical background as well as practical knowledge of the structure and properties of ceramic, metal, and polymer matrix composites.				Detailed atomic and phenomenological descriptions of rate limiting steps, diffusion, and interface kinetics with applications involving mass transport and phase transitions in the solid state.			
	Prereq: 3261, or Grad standing, or permission of instructor. Not open to students with credit for 644 or 5711.				Prereq: Grad standing in MatScEn, or permission of instructor. Not open to students with credit for 737.			
5761.71	Mechanical Behavior of Crystalline Solids at Lower Temperature	U G	1½		6741	Practical Transmission Electron Microscopy Lab	G	1
	Strength and Deformation Mechanisms in Crystalline Solids at Low Temperatures.				Transmission Electron Microscopy with emphasis on practical methods.			
	Prereq: 3261 or 3332; or Grad standing; or permission of instructor. Not open to students with credit for MatScEn 5761.				Prereq: Grad standing in MatScEn or WeldEng; or permission of instructor.			
5761.72	Mechanical Behavior of Crystalline Solids at High Temperatures	U G	1½		6747	Structure and Defects in Materials	G	3
	Strength and deformation mechanisms in crystalline solids at high temperatures.				Structure and defects in crystalline and amorphous solids.			
	Prereq: 3261 or 3332; or Grad standing; or permission of instructor.				Prereq: Grad standing in MatScEn, or permission of instructor. Not open to students with credit for 747.			
5763.70	Fracture and Fatigue of Engineering Materials	U G	1½		6756	Computational Materials Modeling	G	2
	This seven week course will provide a background in fracture and fatigue with a survey of material-specific mechanisms.				Introduction to common computer modeling methods, including hands-on work with emphasis on the atomic and nano-scales.			
	Prereq: 3261, or Grad standing; or permission of instructor. Not open to students with credit for 5763.				Prereq: Permission of instructor. Not open to students with credit for 756.			
5774	Polymer Membranes	U G	3		6756.71	Computational Materials Modeling - Continuum Scale	G	1
	Membrane separation mechanisms, transport models, permeability computations/measurements, membrane materials/types/modules, membrane contactors/reactions, and applications.				Practical computational materials modeling and simulation techniques with focus on methods at the continuum scale.			
	Prereq: ChBE 3508 (509), or Grad standing; or permission of instructor. Not open to students with credit for 774 or ChBE 774. Cross-listed in ChBE.				Prereq: Grad standing in MatScEn or permission of instructor. Not open to students with credit for 6756 or 756.			
5951	Corrosion and Failure Analysis	U G	3		6756.72	Computational Materials Modeling - Atomic Scale	G	1
	Covers fundamentals of environmental degradation of materials, corrosion phenomenology and corrosion prevention strategies. Also methodologies for root cause analysis of failed components.				Practical computational materials modeling and simulation techniques with focus on the atomic scale.			
	Prereq: Sr or Grad standing in Engineering, or permission of instructor.				Prereq: Grad standing in MatScEn or permission of instructor. Not open to students with credit for 6756 or 756.			
5971	Solid State Science	U G	3		6765	Mechanical Behavior of Materials	G	2
	In-depth theory of electronic structure of materials as related to the materials' atomistic structure. The origins of the mechanical, optical and magnetic properties are discussed.				Mechanical response of materials to loads and deformation.			
	Prereq: 2010 and 3271; or permission of instructor.				Prereq: Grad standing in MatScEn, or permission of instructor. Not open to students with credit for 765.			
6193.01	Individual Studies in Materials Science and Engineering	G	0 - 6		6777	Electronic Properties of Materials	G	2
	Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.				In-depth analysis of the structure - property relationships and application of materials in electronics, optics and magnetics.			
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.				Prereq: Grad standing in Engineering or Science or permission of instructor. Not open to students with credit for 777.			
6193.02	Individual Studies in Materials Science & Engineering	G	0 - 6		6778	Magnetic Materials	G	2
	Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.				This course teaches the basic properties of magnetic materials in a wide class of materials including metals, insulators, semiconductors. The relationships between structure, composition, processing, and magnetic properties will be reviewed with a special focus on the atomic origins of magnetism and the ability to engineer these mechanisms through alloying or doping, or layered structures.			
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.				Prereq: Grad standing in Engineering or Mathematical and Physical Science; or permission of instructor.			
6194	Group Studies in Materials Science and Engineering	G	0 - 6		6999	Graduate Research in Materials Science and Engineering	G	½ - 18
	Special topics in Materials Science and Engineering.				Research for thesis purposes only.			
	Repeatable to a maximum of 12 cr hrs or 8 completions.				Repeatable. This course is graded S/U.			
6295	Superconducting Materials and Properties	G	2		7193.01	Individual Studies in Materials Science and Engineering	G	0 - 6
	Introduction to superconducting materials and phenomena. It will focus on the description of various materials and their properties in terms of basic superconducting phenomena, and the influence of materials-based properties on these phenomena.				Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.			
	Prereq: Grad standing in Material Science & Engineering, Welding, or Engineering; or Math and Physical Sciences; or permission of instructor.				Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
6700	Essentials of Materials Science for High School Educators	G	2		7193.02	Individual Studies in Materials Science & Engineering	G	0 - 6
	Provides academic background and quantitative examples to the demonstrations in the ASM Materials Foundation Materials Camps for Teachers. This requires the students in this class to deploy related content in their high school classroom settings.				Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.			
	Prereq: Graduate Non-Degree status, or permission of instructor.				Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.			
6715	Principles of the Characterization of Materials	G	2		7194	Group Studies in Materials Science and Engineering	G	0 - 6
	Fundamentals of beam-solid interactions and their application to the characterizing the structure and composition of materials. The emphasis of this course will be on techniques utilizing X-ray and electron probes.				Special topics in Materials Science and Engineering.			
	Prereq: Grad standing in MatScEn or WeldEng, or permission of instructor. Not open to students with credit for 715.				Repeatable to a maximum of 12 cr hrs or 8 completions.			

7531 Epitaxial Heterostructures
G 2

Science and techniques behind thin film growth and engineering for combining different materials, altering chemical composition at the nanometer scale, while controlling defects and strain. Epitaxial crystal growth will be explained. Students will gain an understanding of the kinetics, thermodynamics, and technology involved in epitaxial heterostructures and self-assembled nanostructures.

Prereq: Grad standing. Cross-listed in ECE.

7818 Advanced Topics in Corrosion Science
G 2

Advanced topics in corrosion science.

Prereq: 6735. Not open to students with credit for 881.

7835 Point Defects in Crystalline Materials
G 2

A thermodynamic and electrochemical treatment of the formation, concentrations, mobilities, and interactions of atomic, ionic, and electronic point defects in materials at high temperatures. Prereq: 6730 and 6737, or permission of instructor. Not open to students with credit for 835.

7845 Solid Surfaces and Interfaces
G 2

Elements of surface and interface science. Thermodynamics, structure, microstructure and kinetics of interfacial phenomena in materials.

Prereq: 6730, 6737, and 6747. Not open to students with credit for 845.

7850 Structural Transformations
G 2

Structural transformations in materials with emphasis on basic phenomena. Selected topics will be developed based on classical approaches and recent advances.

Prereq: 6730 and 6737. Not open to students with credit for 850.

7855 Electron Diffraction, Imaging and Spectroscopies
G 2

Advanced topics in characterizing materials using transmission electron microscopy. Topics covered include electron diffraction techniques, important imaging modes, and widely used spectroscopy methods.

Prereq: 6715, or permission of instructor. Not open to students with credit for 855.

7862 Microstructural Elasticity
G 2

Elastic interaction between vacancies, dislocations, faults, grain boundaries, interfaces, precipitates, transforming particles, cracks, and indentations controls material properties, primarily mechanical.

Prereq: 6765. Not open to students with credit for 862.

7895 Graduate Seminar in Materials Science and Engineering
G 1

Presentations and discussion by graduate students, outside speakers on thesis research, and current problems in Materials Science and Engineering.

Prereq: Grad standing in MatScEn, or permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8000 MSE PhD Dissertation Overview
G 1

Public review of PhD research and committee guidance on dissertation topic.

Prereq: Only open to students who have passed the MSE PhD Candidacy Exam. This course is graded S/U.

8194 Group Studies in Materials Science and Engineering
G 0 - 6

Special topics in Materials Science and Engineering.

Repeatable to a maximum of 12 cr hrs or 8 completions.

8999 Graduate Research in Materials Science and Engineering
G ½ - 18

Research for dissertation purposes only.

Repeatable. This course is graded S/U.

Mathematics

1050 Precollege Mathematics I
U 5

Fractions and decimals, basic algebra, graphing lines, factoring, systems of equations. Credit for this course will not count toward graduation in any degree program.

Prereq: 1040 (040) or 050, or Math Placement Level T, or permission of department. Not open to students with credit for any Math course above 1050 (050). This course is available for EM credit.

1060 Supplementary Pre-College Mathematics
U 2

Math 1060 is a terminal math course designed to satisfy the Quantitative Reasoning: Basic Computation category of the General Education Requirement (GE). Students may follow-up with Math 1116 to satisfy the Mathematical or Logical Analysis category of the General Education Requirement (GE). Students who wish to take math courses higher than Math 1116 should take Math 1075 rather than Math 1060.

Prereq: C- or better in 1050, or Math placement level S. Not open to students with credit for any higher numbered math class, or for any quarter class numbered higher than 50. GE quant reason basic computation course.

1074 Transition Pre-College Mathematics II
U 3

Graphing lines, systems of two equations, factoring, rational expressions, quadratic equations, applications. Credit for this course will not count toward graduation in any degree program. This course is used only for transfer credit.

Prereq: 1050 (50). Not open to students with credit for any Math course numbered 1075 (75) or above. GE quant reason basic computation course.

1075 Precollege Mathematics II
U 4

Algebraic, rational, and radical expressions; functions and graphs; quadratic equations; absolute value; inequalities; and applications. Credit for this course will not count toward graduation in any degree program.

Prereq: 1074 or 075; or a grade of C- or above in 1050; or Math Skills Assessment Level R or S; or ACT math subscore of 22 or higher that is less than 2 years old. Not open to students with credit for any Math course above 1075, except for 1116; or for any quarter-system course above 075, except for 116. This course is available for EM credit. GE quant reason basic computation course.

1116 Excursions in Mathematics
U 3

Critical thinking and problem solving, with relevant topics met in everyday life. Appropriate for non-science majors.

Prereq: 1073, 1074, 1075, 75, or 104; or Math Placement Level R or above; or ACT math subscore of 22 or higher that is less than 2 years old. Not open to students with credit for 1152 (153) or above. GE quant reason math and logical anly course.

1118 Mathematics for Architects
U 3

Topics in geometry for architecture majors.

Prereq: A grade of C- or above in 1148 or 1150, or credit for 148 or 150, or Math Placement Level M or L; and enrollment in School of Architecture.

1125 Mathematics for Elementary Teachers I
U 5

Sequence 1125-1126 involves numbers, geometry, measurement, and mathematical reasoning, for prospective elementary school teachers.

Prereq: A grade of C- or above in 1075; or credit for 1074, 75, or 104; or Math Placement Level R or above; or ACT math subscore of 22 or higher that is less than 2 years old; and enrollment in Early Childhood or Special Education major, or in Middle Childhood major or pre-major with area of concentration different than Math. Not open to students with credit for 106.

1126 Mathematics for Elementary Teachers II
U 5

Continuation of 1125: numbers, geometry, measurement, and mathematical reasoning, for prospective elementary school teachers.

Prereq: A grade of C- or above in 1125; and enrollment in Early Childhood or Special Education major, or in Middle Childhood major or pre-major with area of concentration different than Math. Not open to students with credit for 107.

1130 College Algebra for Business
U 4

Algebraic, exponential, and logarithmic functions. Matrix algebra. Applications to business.

Prereq: A grade of C- or above in 1075, or credit for 104, or Math Placement Level M or N, or ACT math subscore of 22 or higher that is less than 2 years old. Not open to students with credit for 1131 (131), or for any Math course numbered 1149 (150) or above. This course is available for EM credit. GE quant reason math and logical anly course.

1131 Calculus for Business
U 5

Survey of calculus of one and several variables; applications to business.

Prereq: A grade of C- or above in 1130, 1144, 1148, or 1150, or credit for 130, 148, or 150, or Math Placement Level L. Not open to students with credit for 1151 (151) or above, or 1134 (132). This course is available for EM credit. GE quant reason math and logical anly course.

1134 Transition Calculus for Business
U 3

Integral and multi-variable calculus for business. This course is used only for transfer credit.

Prereq: 131, or equiv. Not open to students with credit for 132. This course is available for EM credit.

1135 Number and Operations for Teachers
U 5

The first course in a two semester sequence for teachers of elementary and middle grade students. This course focuses on concepts of numbers and arithmetic operations, including modern and historical perspectives.

Prereq: A grade of C- or above in 1075; or credit for 1074, 75, or 104; or Math Placement Level R or above; or ACT math subscore of 22 or higher that is less than 2 years old. Not open to students with credit for 106.

1136 Measurement and Geometry for Teachers
U 5

This course is the second in a two semester sequence for teachers of elementary and middle grade students. This course focuses on concepts of measurement and geometry, including modern and historical perspectives.

Prereq: A grade of C- or above in 1135.

1138 Fundamentals of Mathematics for Engineers
U 4

This application-oriented, hands-on, introduction to engineering mathematics course will provide an overview of the salient math topics most heavily used in beginning engineering courses. All math topics will be presented within the context of an engineering application, and reinforced through extensive examples of their use in the core engineering courses.

Prereq: Math Placement Level N. Not open to students with credit for 1151 or Engr 1138. Cross-listed in Engr.

1140 Calculus with Review I
U 4

This is the first of a two semester course sequence. The topics covered in Math 1140 will include differential calculus of one real variable, with review of important algebra and pre-calculus concepts. Calculus with Review I is a course designed with an emphasis on reviewing these fundamental pre-calculus skills as they apply to calculus.

Prereq: A grade of C- or above in 1148 and 1149, or in 1144, 1150, or 150, or Math Placement Level L. Not open to students with credit for 1141, or 1151 or above, or 151.xx or above. GE quant reason math and logical anly course.

290 Mathematics

1141 Calculus with Review II

U 4

This is the second of a two semester course sequence. The topics covered in Math 1141 will include differential calculus of one real variable, with review of important algebra and pre-calculus concepts. Math 1141 is a course designed with an emphasis on reviewing these fundamental pre-calculus skills as they apply to calculus.

Prereq: A grade of C- or above in 1140. Not open to students with credit for 1151 or above (151.xx, or above). GE quant reason math and logical anly course.

1144 Precalculus Transition

U 4

Math 150 done in a semester: Properties and applications of rational, logarithmic, exponential, trigonometric, and inverse trigonometric functions. Introduction to complex numbers. This course is used only for transfer credit.

Prereq: 1148 (148), or permission of department. Not open to students with credit for 150 or above.

1148 College Algebra

U 4

Functions: polynomial, rational, radical, exponential, and logarithmic. Introduction to right-angle trigonometry. Applications.

Prereq: A grade of C- or above in 1075, or credit for 104 or 148, or Math Placement Level N, or ACT math subscore of 22 or higher that is less than 2 years old, or permission of department. Not open to students with credit for 1144, or for Math courses numbered 1150 (150) or above. This course is available for EM credit. GE quant reason math and logical anly course.

1149 Trigonometry

U 3

Trigonometric functions and their properties. Vectors, polar coordinates and complex numbers. Prereq: A grade of C- or above in 1148, or permission of department. Not open to students with credit for 1144, or for any Math course numbered 1150 (150) or above. This course is available for EM credit. GE quant reason math and logical anly course.

1150 Precalculus

U 5

Functions: polynomial, rational, radical, exponential, logarithmic, trigonometric, and inverse trigonometric. Applications.

Prereq: Math Placement Level M. Not open to students with credit for 1144, 1148, or for 1149 or above, or for any quarter Math course numbered 150 or above. This course is available for EM credit. GE quant reason math and logical anly course.

1151 Calculus I

U 5

Differential and integral calculus of one real variable.

Prereq: A grade of C- or above in 1148 and 1149, or in 1144, 1150, or 150, or Math Placement Level L. Not open to students with credit for 1152 or 152.xx, or above. This course is available for EM credit. GE quant reason math and logical anly course.

1152 Calculus II

U 5

Integral calculus, sequences and series, parametric curves, polar coordinates, (optional: vectors).

Prereq: A grade of C- or above in 1144 (114), 1151, 1156, 1161.xx, 152.xx, 161.xx, or 161.01H. Not open to students with credit for 1172, 1181H or any Math class numbered 1500 or above, or with credit for 153.xx, or Math courses numbered 162.xx or above. This course is available for EM credit. GE quant reason math and logical anly course.

1156 Calculus for the Biological Sciences

U 5

Differential calculus and mathematical modeling in the life sciences.

Prereq: A grade of C- or above in 1148 and 1149, or a grade of C- or above in 1150, or credit for 150, or Math Placement Level L. Not open to students with credit for 1151 (151.xx) or above. GE quant reason math and logical anly course.

1157 Mathematical Modeling for the Biological Sciences

U 5

Models in life sciences using integral calculus, linear algebra, dynamical systems, and ordinary differential equations.

Prereq: A grade of C- or above in 1151, 1156, 1161.xx, or 1181H, or credit for 152.xx. Not open to students with credit for 1152, or for any Math course numbered 2000 or above, or for a quarter-system Math course numbered 254.xx or above.

1161.01 Accelerated Calculus I

U 5

Differential and integral calculus of one real variable. Intended for students having prior experience with calculus.

Prereq: Math Placement Level L, and previous calculus experience. Not open to students with credit for any Math course numbered 1152 or above, or for the quarter-system Math courses 151.xx and 152.xx, or for any quarter-system course numbered 162 or above. GE quant reason math and logical anly course.

1161.02 Accelerated Calculus I for Honors Engineers

U 5

Differential and integral calculus of one real variable. Intended for students in Fundamentals of Engineering for Honors (FEH).

Prereq: Math Placement Level L, and previous calculus experience. Not open to students with credit for 1152, or 151.xx and 152.xx, or 162 or above. GE quant reason math and logical anly course.

1165 Math for Middle School Teachers I

U 5

Algebra and reasoning for middle school teachers.

Prereq: A grade of C- or above in 1148 and 1149, or in 1150, or credit for 150, or Math Placement Level L; and major or pre-major in Middle Childhood Education, within either ASC or EHE.

1166 Math for Middle School Teachers II

U 5

Geometry for middle school teachers.

Prereq: A grade of C- or above in 1165, and major or pre-major in Middle Childhood Education either within ASC or within EHE.

1172 Engineering Mathematics A

U 5

Techniques of integration, Taylor series, differential calculus of several variables. Applications.

Prereq: A grade of C- or above in 1114 (114), 1151, 1156, 1161.xx, 152.xx, 161.xx, or 161.01H. Not open to students with credit for 1152, 1534 (153.xx), or 1544 (154), or for any Math class numbered 1172 or above, or for any quarter-system Math class numbered 254.xx or above. Not open to students majoring in Math, pre-Actuarial Science, or Actuarial Science. This course is available for EM credit.

1181H Honors Calculus I

U 5

Single variable calculus treated in depth.

Prereq: 1151 or 151.xx, and permission of department. GE quant reason math and logical anly course.

1187H Honors Problem Solving

U 1 - 2

Problem solving beyond what is encountered in standard programs.

Prereq: Permission of department. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

1193 Individual Studies in Mathematics

U 1 - 3

Individual studies.

Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

1194 Group Studies in Mathematics

U 1 - 3

Designed to give groups of undergraduate students an opportunity to pursue special studies not otherwise offered.

Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions.

1194H Honors Group Studies in Mathematics

U 1 - 3

Designed to give groups of honors undergraduate students an opportunity to pursue special studies not otherwise offered.

Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions.

1295 Introductory Seminar

U 1

Seminar on mathematical topics for beginning math majors.

Prereq: Enrollment in Math major, or permission of department. This course is graded S/U.

1534 Transition Calculus II

U 3

Indeterminate forms, improper integrals, infinite series, parametric curves, vectors and vector functions. This course is used only for transfer credit.

Prereq: A grade of C- or above in 152.xx, 161.xx, or 161.01H. GE quant reason math and logical anly course.

1544 Transition Engineering Calculus

U 3

Integral calculus, Taylor series, differential calculus of several variables. Applications. Intended for students majoring in Engineering. This course is used only for transfer credit.

Prereq: A grade of C- or above in 152.xx, or equiv.

2137 Algebra and Coordinate Geometry for Teachers

U 3

This is one of two independent courses which follow Math 1136 to provide necessary content for middle grade teachers. This course focuses on algebra, coordinate geometry, and their connections through equations in one or more unknowns. Modern and historical perspectives are woven throughout.

Prereq: A grade of C- or above in 1136; and a grade of C- or above in 1149 or 1150, or credit for 150, or math placement level L.

2138 Calculus and its History for Teachers

U 3

This is one of two independent courses which follow Math 1136 to provide necessary content for middle grade teachers. This course focuses on functions and calculus, including modern and historical perspectives.

Prereq: A grade of C- or above in 1136; and a grade of C- or above in 1149 or 1150, or credit for 150, or math placement level L.

2153 Calculus III

U 4

Multivariable differential and integral calculus.

Prereq: A grade of C- or above in 1152, 1172, 1534, 1544, 1181H, or 4181H, or credit for 153.xx, 154, 162.xx, or 162.01H. Not open to students with credit for any course 2153 or above, or for any quarter-system class 254.xx or above. This course is available for EM credit.

2162.01 Accelerated Calculus II

U 5

Vectors, multivariable calculus, integral theorems.

Prereq: A grade of C- or above in 1161.xx, 1181H, or 4181H. Not open to students with credit for semester Math course above 2162.01, or for any quarter Math course numbered 254.xx or above.

2162.02 Accelerated Calculus II for Honors Engineers

U 5

Accelerated multivariable calculus. Intended for students in Fundamentals of Engineering for Honors (FEH).

Prereq: A grade of C- or above in 1161.xx, 1181H, or 4181H. Not open to students with credit for 2153, or for a semester Math course numbered 2162 or above, or for a quarter Math course numbered 263.xx or above.

2167 Calculus for Middle School Teachers	U 3	3295 Senior Seminar	U 1
Concepts of Calculus for Middle School teachers.		Seminar on mathematical topics and career possibilities for senior math majors and actuarial science majors.	
Prereq: A grade of C- or above in 1165, or credit for 1164 (110); and enrollment in Middle Childhood Education major or pre-major, within ASC or EHE. Not open to students with credit for 111.		Prereq: Enrollment in Math or Actuarial Science major, and permission of department. This course is graded S/U.	
2168 History of Mathematics for Middle School Teachers	U 3	3345 Foundations of Higher Mathematics	U 3
Historical and mathematical discussion of topics in the middle school math curriculum.		Introduction to logic, proof techniques, set theory, number theory, real numbers.	
Prereq: A grade of C- or above in 2167, or credit for 111; and enrollment as a major or pre-major in Middle Childhood Education (within either ASC or EHE). Not open to students with credit for 212.		Prereq: Major or minor in Math, CSE, CIS, ECE, STEMED-PRE or STEMED-BS, and:	
2173 Engineering Mathematics B	U 3	If Math, STEMED-PRE or STEMED-BS:	
Multiple integrals, line integrals, vector fields, second order ordinary differential equations.		Prereq: A grade of C- or above in 2153, 2162.xx, 2173, or 2182H, or credit for 254.xx, 263.xx, 263.01H.	
Prereq: 1172 or 1544 (154). Not open to students with credit for 2153, or for any Math course 2173 above, or for any quarter-system Math course 254.xx or above.		If CIS, CSE or ECE:	
2174 Linear Algebra and Differential Equations for Engineers	U 3	Prereq: A grade of C- or above in CSE 2321; and a grade of C- or above in 1161.xx, 1172, 1181H, 1534, 1544, 1152, or 4181H, or credit for 153.xx, 154, 162.xx, or 162.01H. Not open to students with credit for 345.	
Matrix theory, eigenvectors and eigenvalues, ordinary and partial differential equations.		3350 Introduction to Mathematical Biology	U 3
Prereq: 2173, and enrollment in Engineering, Physics, or Chemistry major; or permission of Math department. Not open to students with credit for both 2415 (415.xx) and 2568 (568 or 571), or with credit for 5520H (520H and 521H).		Introduction to quantitative and qualitative analysis of several mathematical models for biological systems.	
2177 Mathematical Topics for Engineers	U 4	Prereq: C- better in Math 2255, 2415, 5520H; or credit for 255, 415.xx, or 521H. Not open to students with credit for 350.	
Multiple integrals, line integrals; matrix algebra; linear (ordinary and partial) differential equations.		3532 Mathematical Foundations of Actuarial Science	U 3
Prereq: 1172, 1544 (154), 2153, 2162.xx, 2182H, 4182H, 254.xx, 263.xx, 263.01H, or 264H; and a major or minor in Biochem, BiomedE, Chem, CEEGS, FABEng, MatScEn, CBE, Physics or WeldEng. Not open to students with credit for 2174 or 5520H, or with credit for both (i) 2415 (415), 2255 (255), or 4512 (512) and (ii) 2568 (568 or 571).		Problem workshop for applications of calculus and probability to actuarial science and risk management.	
2182H Honors Calculus II	U 5	Prereq: C- or better in 4530, 5530H, or Stat 4201; or credit for Math 530, 531H, or Stat 420. Not open to students with credit for 532.	
Multivariable calculus treated in depth.		3588 Practicum in Actuarial Science	U 3
Prereq: A grade of C or above in 1181H or 4181H. Not open to students with credit for both 162.01H and 263.01H.		Presentations by practicing actuaries on topics drawn from their fields of expertise; oral presentations by students on selected topics in actuarial science.	
2191.02 Field Experience	U 0	Prereq: Completion of second writing course. Jr standing. Open only to actuarial science majors. Not open to students with credit for 588.	
A cooperative education or internship assignment conducted under the supervision of the employer; registration and evaluation by the director of ASC Career Services.		3589 Introduction to Financial Mathematics	U 3
Prereq: Minimum cumulative GPA of 2.5, Soph standing, and permission of the director of ASC Career Services. Student is responsible for finding an internship or cooperative education site that is secured, through completion of the Internship Agreement form, prior to the start of the semester. Repeatable to a maximum of 2 completions. This course is graded S/U.		Introduction to mathematics used in financial asset pricing, based on the binomial asset pricing model. Prepares students for further study of stochastic calculus in continuous time.	
2193 Individual Studies in Mathematics	U 1 - 3	Prereq: C- or better in 3345 or credit for 345; and either C- or better in 4530, 5530H, or Stat 4201; or credit for 530, 531H, or Stat 420; or permission of department. Not open to students with credit for 589.	
Individual studies.		3607 Beginning Scientific Computing	U 3
Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.		Introduction to mathematical theory of algorithms used to solve problems that typically arise in sciences, engineering, and finance.	
2194 Group Studies in Mathematics	U 1 - 3	Prereq: Both a C- or better in 2255, 2415, or 5520H, or credit for 255, 415.xx, or 521H; and also a C- or better in 2568 or 5520H, or credit for 568, 571, or 520H.	
Designed to give groups of able undergraduate students an opportunity to pursue special studies not otherwise offered.		3618 Theory of Interest	U 3
Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions.		Financial transactions involving interest: measurement of interest, force of interest, annuities-certain, introduction to financial derivatives.	
2255 Differential Equations and Their Applications	U 3	Prereq: A grade of C- or above in 1152, 1172, 1181H, 1534, 1544, 2162.xx, 2153, or 4181H, or credit for 153, 154, 162, 162H, or 191H; and enrollment in Math major, or Actuarial Science major or pre-major. Not open to students with credit for 618.	
Ordinary differential equations, their series solutions, numerical methods, Laplace transforms, physical applications.		4181H Honors Analysis I	U 5
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, 2182H, or 4182H, or credit for 254.xx, 263.xx, 263.01H, or 264H. Not open to students with credit for 2415, 5520H, 255, 415.xx, or 521H.		4181H - 4182H is an enriched honors sequence introducing students to mathematical underpinnings of calculus.	
2366 Introduction to Discrete Mathematics	U 2	Prereq: Permission of department.	
Mathematical reasoning, logic, sets, functions, recursive definitions, elementary counting principles.		4182H Honors Analysis II	U 5
Prereq: C- or better in 1131, 1151, 1161.xx, or 1181H; or credit for 132, 152.xx, 161.xx, 161.01H; or permission of department. Open only to majors in MIS (Management Information Systems). Not open to students with credit for 366.		4181H - 4182H is an enriched honors sequence introducing students to mathematical underpinnings of calculus.	
2415 Ordinary and Partial Differential Equations	U 3	Prereq: A grade of B- or above in 4181H, or permission of department. Not open to students with credit for 264H.	
Ordinary and partial differential equations: Fourier series, boundary and initial value problems.		4193 Individual Studies in Mathematics	U 1 - 3
Prereq: 2153, 2162.xx, 2173, 2182H, 4182H, 254.xx, 263.xx, 263.01H, or 264H; or 2568 and either 1172 or 1544 (154). Not open to students with credit for 2255 (255), 5520H (521H), 2174, or 415.xx.		Individual studies.	
2568 Linear Algebra	U 3	Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.	
Matrix algebra, vector spaces and linear maps, bases and dimension, eigenvalues and eigenvectors, applications.		4194 Group Studies in Mathematics	U 1 - 3
Prereq: A grade of C- or above in 1172, 1544, 2153, 2162.xx, 2182H, or 4182H; or a grade of C- or above in both 1152 and CSE 2321. Not open to students with credit for 4568 or 5520H.		Designed to give groups of able undergraduate students an opportunity to pursue special studies not otherwise offered.	
2568H Honors Linear Algebra	U 3	Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions.	
This course, an introduction to linear algebra, is aimed at math majors who want a rigorous background in finite-dimensional linear algebra and exposure to applications of modern relevance, including some practice in implementing ideas from this course on a computer.		4350 Quantitative Neuroscience	U 3
Prereq: A grade of C- or above in 2153, 2162.xx, 2182H, or 4182H; and permission of department. Not open to students with credit for 2568, 4568, or 5520H.		Introduction to mathematical modeling and computational analysis of neuronal systems, Hodgkin-Huxley model, dynamical systems methods, neuronal networks, models for neurological disease.	
		Prereq: 1152 (152) or 1157, or permission of instructor.	
		4407 Geometry for Teaching	U 2
		Algebra connections between school mathematics and undergraduate mathematics, focusing on the algebra in the Common Core State Standards for Mathematics.	
		Prereq: Enrollment in the M.Ed. program for secondary mathematics. Prereq or concur: 4507; or permission of instructor.	

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4420	Capstone Course for Integrated Major in Mathematics and English	U	3	4570	Applied Algebraic Topology	U	3	
Students combine the Mathematics and English knowledge and skills they have acquired in the integrated major through a capstone experience.								
Prereq: Sr standing in Integrated Major in Mathematics and English (IMME) Program, or permission of instructor. Not open to students with credit for English 4420. Cross-listed in English.				This course will serve as an introduction to algebraic topology, with a view toward persistent homology of point clouds for applications to data analysis. Homology of simplicial complexes over a field with a focus on building up intuition about homology moving to a specialized notion of persistent homology of persistence modules. Real-world applications to data analysis will be provided.				
Prereq: A grade of C- or above in 2568 and 3345.								
4480	Algebra for Teaching	U	2	4573	Elementary Number Theory	U	3	
Algebra connections between school mathematics and undergraduate mathematics, focusing on the algebra in the Common Core State Standards for Mathematics.								
Prereq: Enrollment in the M.Ed. program for secondary mathematics. Prereq or concur: 4580; or permission of instructor.				Prime numbers, modular arithmetic, Diophantine equations, combinatorial analysis; introduction to concepts of abstract algebra.				
Prereq: A grade of C- or above in 3345 or 4181H, or credit for 264H or 345. Not open to students with credit for 5576H or 573.								
4504	History of Mathematics	U	3	4575	Combinatorial Mathematics	U	3	
Development of mathematics from primitive origins to present forms. Topics include development of arithmetic, algebra, geometry, trigonometry, and calculus.								
Prereq: A grade of C- or above in 2568, 4507, or 5520H, or credit for 568, 571, 507, 580, or 520H, and enrollment in Math major or Grad standing in EduTL; or permission of department. Not open to students with credit for 504.				Classic puzzles of recreational mathematics; matching theory and graph theory; enumeration techniques; combinatorial analysis.				
4507	Geometry	U	3	Prereq: C- or better in 2568 or 5520H; or credit for 568, 571, or 520H. Not open to students with credit for 575.				
Topics in Euclidean, spherical, and hyperbolic geometries.								
Prereq: A grade of C- or above in 3345, and in 2568 or 5520H; or credit for 345, and credit for 568, 571, or 520H. Not open to students with credit for 507.				4578				
4512	Partial Differential Equations for Science and Engineering	U	3	Discrete Mathematical Models	U	4		
Second order ordinary differential equations via Laplace transforms and series solutions; Fourier series; three archetypical partial differential equations; boundary value problems; Sturm-Liouville theory. Intended for Engineering students.								
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, 2182H, or 4182H, or credit for 254.xx, 263.xx, 263.01H, or 264H. Not open to students with credit for 4557 (557) or 512.				Homogeneous and non-homogeneous difference equations of one or several variables, Markov chains, graph theory, network flows.				
4530	Probability	U	3	Prereq: Both a C- or better in 2568 or 5520H; and also a C- or better in 4530, 5530H or Stat 4201; or both credit for 568, 571, or 520H; and also credit for 530, 531H, or Stat 420. Not open to students with credit for 578.				
Combinatorial probability, random variables, independence, expectation, variance.								
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, 2177, 2182H, or 4182H, or credit for 254.xx, 263.xx, 263.01H, or 264H. Not open to students with credit for 5530H (531H), 530, or Stat 4201 (420).				4580	Abstract Algebra I	U	3	
4545	Analysis Overview	U	4	Topics in number theory, group theory, vector spaces and linear transformation, field theory, and field extensions.				
Topics in calculus and analysis.				Prereq: A grade of C- or above in 3345, or credit for 345; and a grade of C- or above in 2568 or 5520H, or credit for 568, 571, or 520H. Not open to students with credit for 581 or 591H.				
Prereq: A grade or C- or above in 2153, 2162.xx, 2173, 2182H, or 4182H, or credit for 254, 263.xx, 263.01H, 264H, or equiv; and a grade of C- or above in 2568 or 5520H, or equiv; and Grad standing in Statistics or Biostatistics; and permission of department (Statistics or Biostatistics).				4581	Abstract Algebra II	U	3	
4547	Introductory Analysis I	U	3	Continuation of Math 4580: topics in number theory, group theory, vector spaces and linear transformations, field theory, and field extensions.				
4547 - 4548 involves advanced calculus: sequences, limits, continuity, differentiation, Riemann integral, sequences and series of functions, Taylor series, improper integrals.				Prereq: A grade of C- or above in 4580, or credit for 5590H or 581. Not open to students with credit for 582 or 592H.				
Prereq: C- or better in 3345; or credit for 345. Not open to students with credit for 548.				4990	Undergraduate Seminar in Mathematical Biology Research	U	1	
4548	Introductory Analysis II	U	3	Seminar on research in mathematical biology and its applications, with an emphasis on evolutionary biology, ecology, neuroscience, and cell biology.				
Continuation of Math 4547. Advanced calculus: sequences, limits, continuity, differentiation, Riemann integral, sequences and series of functions, Taylor series, improper integrals.				Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U. Cross-listed in EEOB 4990.				
Prereq: C- or better in 4547, or credit for 548. Not open to students with credit for 549.				4998	Undergraduate Research	U	1 - 3	
4551	Vector Analysis	U	3	Opportunity for undergraduate students to do mathematical research.				
Vector operations; Jacobian and change of variables; divergence, gradient, and curl; Green's, Stokes', and divergence theorems; applications.				Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.				
Prereq: C- or better in 2153, 2162.xx, 2173, or 2182H; or credit for 254.xx, 263.xx, or 263.01H. Not open to students with credit for 4182H (264H), 513, or 551.				4998H	Honors Undergraduate Research	U	1 - 3	
4552	Complex Analysis	U	3	Opportunity for honors undergraduate students to do mathematical research.				
Introduction to analytic functions of a complex variable, integral theorems, power series, residues, conformal mapping.				Prereq: Honors standing and permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.				
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, 2182H, or 4182H, or credit for 254.xx, 263.xx, 263.01H, or 264H. Not open to students with credit for 5522H (522H), 514, or 552.				4999	Undergraduate Thesis	U	1 - 3	
4556	Dynamical Systems	U	3	Opportunity for undergraduate students to write a thesis.				
Systems of linear, first-order differential equations; existence and uniqueness theorems; numerical methods; qualitative theory; and physical applications.				Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.				
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, 2182H, or 4182H, or credit for 254.xx, 263.xx, 263.01H, or 264H. Not open to students with credit for 556.				4999H	Honors Undergraduate Thesis	U	1 - 3	
4557	Partial Differential Equations	U	3	Opportunity for honors undergraduate students to write a thesis.				
First and second-order PDE's; existence and uniqueness, initial and boundary value problems, Fourier series; Green's functions; wave, heat and Laplace equations; nonlinear PDE's; applications.				Prereq: Honors standing and permission of department. Not open to students with credit for 783H. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.				
Prereq: C- or better in 2255, 2415, 4556, or 5520H; or credit for 255, 415.xx, or 521H. Intended for Math majors. Not open to students with credit for 4512 (512), or 557.				5001	Introduction to Set Theory	U G	3	
4568	Linear Algebra for Engineering Graduate Students	U	3	Axioms of set theory, transfinite induction and recursion, cardinal numbers, cardinal arithmetic, ordinal numbers, ordinal arithmetic, Axiom of Choice, equivalent principles, closed unbounded and stationary sets, infinitary combinatorics.				
Systems of linear equations, vector spaces, bases and dimension, linear maps and matrices, eigenvalues and eigenvectors, applications.				Prereq: 4547 (547), 4580 (580), Grad standing or permission of department. Not open to students with credit for 647 or 649.				
Prereq: A grade of C- or above in 1172, 2153, 2162.xx, 2182H, or 4182H, or credit for 254, 263.xx, 263.01H, or 264H, or equiv; and Grad standing. Not open to students with credit for 2568 (568), 5101 (601), 5520H (520H), or 572.				5051	Introduction to Mathematical Logic	U G	3	
Vector spaces; linear transformations; inner product spaces; eigenvalues and eigenvectors; Hermitian, unitary and normal matrices; quadratic forms; constraints; Rayleigh quotients; singular value decomposition; pseudo-inverse.								
Prereq: 2568 (568), 571, or grad standing. Not open to students with credit for 601.								

5102 Linear Mathematics in Infinite Dimensions	U G	3	5520H Honors Linear Algebra and Differential Equations	U G	5
Sturm-Liouville systems, Hilbert spaces, Fourier and wavelet theory, Green's functions, Helmholtz's equation, cylinder and spherical harmonic solutions, interior and exterior boundary value problems, method of steepest descent and stationary phase. Prereq: 5101 (602). Not open to students with credit for 603.02.			Linear transformations and matrices, spectral theorem, ordinary differential equations, existence and uniqueness theorems, phase space, stability, oscillations. Prereq: A grade of C or above in 4182H, or in both 2182H and 3345; or credit for 264H, or in both 263H and 345; or permission of department. Not open to students with credit for 520H and 521H.		
5111 Algebra I	U G	5	5522H Honors Complex Analysis	U G	5
Groups and homomorphisms, group actions and Sylow's theorems, direct and semidirect products, rings and homomorphisms, factorizations in rings, polynomial rings. Prereq: Grad standing, or permission of department. Not open to students with credit for 670.			Theoretical treatment of complex analysis. Prereq: A grade of C or above in 5520H, or credit for 521H, or permission of department. Not open to students with credit for 4552, 522H, 514, or 552		
5112 Algebra II	U G	5	5529H Honors Combinatorics	U G	5
Modules and vector spaces, modules over a principal ideal domain, applications to linear algebra, field theory, Galois theory. Prereq: 5111 (671) or 591H. Not open to students with credit for 672.			Combinatorial mathematics and its connections with geometry, algebra, analysis, and probability. Prereq: A grade of C or above in 4182H, or in both 2182H and 3345; or credit for 264H, or for both 263H and 345; or permission of department. Not open to students with credit for 594H taken in Au10.		
5152 Introduction to Number Theory with Applications	U G	3	5530H Honors Probability	U G	5
Divisibility, fundamental theorem of arithmetic, Fermat's theorem, congruences, Euler's formula, prime numbers, Euler's phi-function, counting primes, powers and roots mod m, quadratic reciprocity theorem, Diophantine approximation, Pell's theorem. Prereq: Both 5101 (602) and 4581 (582); or Grad standing. Not open to students with credit for 683.			Theoretical treatment of probability, with applications within and outside mathematics. Prereq: A grade of C or above in 5529H, or permission of department. Not open to students with credit for 531H or 594H in Au08 or Au07.		
5168 Introduction to the Finite Element Method	U G	3	5540H Honors Differential Geometry	U G	5
Basic concepts, formulation, and application of finite element techniques for numerical solution of problems of engineering and scientific interest. Prereq: 2568 (568) or CivilEn 2060 (406), and CSE 1221. Not open to students with credit for both CivilEn 768 and MechEng 7068. Cross-listed in MechEng and CivilEn.			Geometry of curves and surfaces in 3-dimensional space, curvature, geodesics, Gauss-Bonnet Theorem, Riemannian metrics. Prereq: A grade of C or above in 5520H, or in both 2182H and 2568; or credit for 520H, or in both 263.01H and 568; or permission of department. Not open to students with credit for 541H.		
5194 Group Studies in Mathematics	U G	1 - 9	5576H Honors Number Theory	U G	5
Designed to give groups of advanced undergraduate and beginning graduate students an opportunity to pursue special studies not otherwise offered. Prereq: Permission of department. Repeatable.			Elementary analytic and algebraic number theory, tracing its unifying role in the development of mathematics through history. *Au Sem (odd years). Prereq: A grade of C or above in 4182H, or in both 2182H and 3345; or credit for 264H, or for both 263H and 345; or permission of department. Not open to students with credit for 577H.		
5194H Honors Group Studies in Mathematics	U G	1 - 3	5590H Honors Abstract Algebra I	U G	5
Gives groups of honors undergraduate students an opportunity to pursue special studies not otherwise offered. Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions.			5590H - 5591H includes elementary number theory, group theory, ring theory, abstract linear algebra, field theory, and Galois theory. Prereq: A grade of C or above in 5520H or in 520H, or permission of department. Not open to students with credit for 591H.		
5201 Introduction to Real Analysis I	U G	5	5591H Honors Abstract Algebra II	U G	5
Basic metric topology, sequences and series, continuous functions, differentiable functions of one variable, Riemann integration, uniform convergence, Fourier series. Prereq: Grad standing, or permission of department. Not open to students with credit for 651.			Continuation of 5590H: elementary number theory, group theory, ring theory, abstract linear algebra, field theory, and Galois theory. Prereq: A grade of C or above in 5590H or in 591H, or permission of department. Not open to students with credit for 592H.		
5202 Introduction to Real Analysis II	U G	5	5601 Essentials of Numerical Methods	U G	3
Continuation of Fourier series, differentiable functions of several variables, implicit function theorem and inverse function theorem, introduction to Lebesgue measure and Lebesgue integration, introduction to Hilbert spaces. Prereq: 5201 (652). Not open to students with credit for 653.			Systems of linear equations, linear least squares, eigenvalue problems, nonlinear equations and optimization, interpolation, numerical integration and differentiation, numerical solution for ODEs, IVPs and BVPs. Prereq: 4556 (556) and either 2568 (568) or 572. Not open to students with credit for 607.		
5221 Introduction to Complex Analysis	U G	3	5602 Computational Partial Differential Equations	U G	3
Calculus of functions of a complex variable, series expansion and singularities of complex analytic functions, Cauchy's integral theorem, maximum principle, harmonic functions, differentials and residue theory, Weierstrass theorem. Prereq: 4547 (548). Not open to students with credit for 5251 (654).			Parabolic PDEs: method of lines, stability and convergence; hyperbolic PDEs: shock capturing, flux limiters; elliptic PDEs: direct solvers and iterative methods. Prereq: Under semesters 5601 and either 4512 or 4557. Under quarters either 512 or 557; and 556; and either 568 or 572. Not open to students with credit for 606.		
5251 Complex Variables and Applications	U G	3	5603 Numerical Linear Algebra	U G	3
Complex numbers and complex differentiable functions, elementary analytic functions, complex integration, series, poles and residues, conformal mapping, applications of conformal mapping. Prereq: Both 2153.xx (254) and 4547 (548); or permission of department. Not open to students with credit for 4552 (552), 514, or 654.			Fundamentals of numerical linear algebra; solving square systems; QR factorization and least squares; calculation of eigenvalues; iterative methods for linear systems; iterative methods for eigenvalue problems. Prereq: Under semesters 2568 and one of 3607, 5601 or 5602. Under quarters either 568 or 571 and either 606 or 607.		
5401 Applied Differential Equations I	U G	3	5630 Life Contingencies I	U G	3
Existence and uniqueness, linear ODE systems, 2x2, phase plane analysis, conservative and reversible systems, bifurcation analysis, limit cycles, perturbation theory. Prereq: 2255 (255) and 2568 (568 or 572). Not open to students with credit for 615.			Introduction to the mathematical theory of contingencies. Includes material from examinations by the Society of Actuaries and the Casualty Actuarial Society. Prereq: A grade of C- or above in 3618, or credit for 618; and a grade of C- or above in 4530, 5530H, or Stat 4201, or credit for 530, 531H, or Stat 420; and enrollment in Actuarial Science major or the MMS program in Financial Math; or permission of department. Not open to students with credit for 631.		
5402 Applied Differential Equations II	U G	3	5631 Life Contingencies II	U G	3
Steady state, heat equation, wave equation, PDEs in two dimensions, the Dirichlet problem, nonlinear evolution equations, wave equations by method of characteristic curve. Prereq: 5401 (616). Not open to students with credit for 617.			Continuation of 5630: Mathematical Theory of Contingencies. Includes material from examinations by the Society of Actuaries and the Casualty Actuarial Society. Prereq: A grade of C- or above in 5630 (631). Open only to Actuarial Science majors, and to MMS students specializing in Financial Math.		
5421 Mathematics of Infectious Disease Dynamics	U G	3			
Provides an introduction to mathematical modeling of infectious diseases, including techniques for building and analyzing disease models, and discussions of calibration and comparison of models with data. This course is intended for graduate students in public health or other related disciplines and for upper level undergraduate and graduate mathematics students. Prereq: 1152, 1172, or 153; or permission of instructor. Cross-listed in PubHEpi.					
5451 Calculus of Variations and Tensor Calculus	U G	3			
Euler-Lagrange equations, Hamilton's Principle, Lagrangian mechanics, Hamiltonian dynamics, Hamilton-Jacobi integration theory of dynamical systems, direct methods, tensor calculus, curvature and geometry of continuum mechanics. Prereq: 2415.xx (415) and 2568 (568 or 572). Not open to students with credit for 701.					

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5632 Financial Economics for Actuaries	U G 3	6111 Abstract Algebra I	G 5
Introduction to the evaluation of options, futures, and other derivatives, interest models and risk management techniques. Includes material from examinations by the Society of Actuaries and the Casualty Actuarial Society.		Group theory; series and actions of groups; complex representations of finite groups; ring theory; modules; UFDs and PIDs; polynomial and Noetherian rings.	
Prereq: A grade of C- or above in 3618, or credit for 618; and a grade of C- or above in 4530, 5530H, or Stat 4201, or credit for 530, 531H, or Stat 420; and enrollment in Math major or Actuarial Science major or Actuarial Science Pre-major, or Grad standing; or permission of department. Not open to students with credit for 632.		Prereq: 5112 (672), or Grad standing. Not open to students with credit for 770.	
5633 Loss Models I	U G 3	6112 Abstract Algebra II	G 5
Introduction to the construction and evaluation of actuarial models, with topics covered by examinations of the Society of Actuaries and the Casualty Actuarial Society.		Introduction to category theory; elementary homological algebra; field theory; finite Galois Theory; infinite Galois Theory; algebraic spaces.	
Prereq: Either a C- or better in Stat 4202 or credit for Stat 421; and either a C- or better in 4530, 5530H, or Stat 4201 or credit for 530, 531H, or Stat 420. Open only to actuarial science majors, and to MMS students specializing in Financial Math.		Prereq: 6111 (771). Not open to students with credit for 772.	
5634 Loss Models II	U G 3	6151 Commutative Algebra	G 3
Continuation of 5633: introduction to the construction and evaluation of actuarial models, with topics covered by examinations of the Society of Actuaries and the Casualty Actuarial Society.		Prime and primary ideals; rings and modules of fractions; integral dependence; chain conditions; valuation and Dedekind domains; completions; Dimension Theory.	
Prereq: C- or better in 5633. Open only to actuarial science majors, and to MMS students specializing in Financial Math.		Prereq: 6112 (772). Not open to students with credit for 978.	
5651 Mathematical Modeling of Biological Processes	U G 3	6152 Non-Commutative Algebra	G 3
Enzyme dynamics, predator-prey and competition model, spread of diseases, plant growth, cell cycle and cell differentiation, reaction-diffusion with advection, cancer models and cancer therapy, wound healing.		Semisimple modules and rings and the Wedderburn Structure Theorem; Jacobson Radical; central simple algebras and the Noether-Skolem Theorem; Brauer Group; primitive rings, Density Theorem.	
Prereq: Grad standing; or either 4512 (512) or 557, and 4556 (556), and either 2568 (568) or 572. Not open to students with credit for 865.		Prereq: 6112 (772). Not open to students with credit for 982.	
5660 Integrated Molecular and Cellular Biology for Non-Biologists	U G 5	6191 Internship in Mathematical Sciences	G 1 - 5
Overview of molecular and cellular biology of single cells, tissues, organisms and their interactions, including genetics and biochemistry of single cells.		Internship and practical experiences, designed primarily for Master level students in the mathematical sciences.	
Prereq: Bio 1101 (101) or permission of instructor. Not open to students with credit for any one of MolGen 5660 (660), 4500 (500), 4606 (606), 605, or 661. Cross-listed in MolGen 5660.		Prereq: Permission of department. This course is graded S/U.	
5702 Curves and Surfaces in Euclidean Three Space	U G 3	6193 Individual Studies in Mathematics	G 1 - 9
Parametrized curves, curvature of curves; Frenet frames, curves with prescribed curvatures, curves on hypersurfaces; principal, Gaussian, and mean curvatures; surfaces in \mathbb{R}^3 , triangulation and classification of surfaces, Gauss-Bonnet theorem.		Individual studies.	
Prereq: Grad standing or 2153.01 (254) and either 2568 (568) or 572. Not open to students with credit for 642.		Prereq: Permission of department. Repeatable. This course is graded S/U.	
5756 Mathematical Methods in Relativity Theory I	U G 3	6194 Group Studies in Mathematics	G 1 - 9
Special relativity as moving frames; tensors, exterior algebra and exterior calculus; differentiable manifolds and space time structures; parallel transport, torsion and curvatures, metric compatibility; structure equations of differential geometry.		Designed to give groups of PhD students an opportunity to pursue special studies not otherwise offered.	
Prereq: 2153.xx (254) and one of 2568 (568) or 5101 (601) or 572. Not open to students with credit for 665.		Prereq: Permission of department. Repeatable.	
5757 Mathematical Methods in Relativity Theory II	U G 3	6211 Real Analysis I	G 5
Gravitation via geometry; stress energy tensor, fluid dynamics; energy momentum conservation; Einstein's field equations, geodesic world lines via Hamilton-Jacobi theory; Schwarzschild spacetime; gauge invariant perturbation theory.		Measures; integration; introduction to normed linear spaces; introduction to L^p spaces; Fourier analysis; signed measures and differentiation.	
Prereq: 5756 (665). Not open to students with credit for 666.		Prereq: 5202 (653). Not open to students with credit for 750.	
5801 General Topology and Knot Theory	U G 3	6212 Real Analysis II	G 5
Topological spaces; continuous maps and metric spaces; connectedness, compactness, countability axioms; metrization, compactification, and convergence; combinatorial, geometric, and algebraic techniques in knot theory; invariants of knots.		Elements of functional analysis; properties and relations of L^p spaces and Fourier analysis; elements of the theory of distributions; selected applications.	
Prereq: Grad standing; or 4547 (547) and either 2568 (568) or 572. Not open to students with credit for 640.		Prereq: 6211 (751). Not open to students with credit for 752.	
6001 Advanced Mathematical Logic I: Proof Theory	G 3	6221 Complex Analysis I	G 3
Logical calculi; cut elimination and Herbrand's theorem; ordinal analysis; ordinal analysis of theories of sets; constructive and intuitionistic logics; realizability; proof mining.		Basic Cauchy theory; harmonic functions; Riemann mapping theorem, conformal maps; analytic continuation; applications of residue calculus; counting theorems for entire and meromorphic functions.	
Prereq: 5051 (649), or permission of department. Not open to students with credit for 747.		Prereq: 5202 (653). Not open to students with credit for 753.	
6002 Advanced Mathematical Logic II: Model Theory	G 3	6222 Complex Analysis II	G 3
Construction of models, compactness, Lowenheim-Skolem theorems, unions of elementary chains, omitting types; categoricity; saturation; model completeness, quantifier elimination; ultraproducts; definability.		Approximation theorems; applications to Fourier analysis and number theory; Jensen and Weierstrass Theorems; Basic SCV: Cauchy-Riemann equations in several variables; pseudoconvexity and extension phenomena; d-bar methods.	
Prereq: 5051 (649) or permission of department. Not open to students with credit for 747.		Prereq: 6221.	
6003 Advanced Mathematical Logic III: Set Theory	G 3	6251 Theory of Probability I	G 4
Axioms of set theory; ordinal and cardinal numbers; transitive models of ZFC; the constructible universe L and HOD; forcing; large cardinals; descriptive set theory.		Review of measures and integration; independence for events and for random variables; covariance and correlation for random variables; weak and strong laws of large numbers; Borel-Cantelli lemmas; Central Limit Theorems.	
Prereq: 5051 (649) or permission of department. Not open to students with credit for 747.		Prereq: 5202 (653). Not open to students with credit for 722.	
6004 Advanced Mathematical Logic IV: Computability Theory	G 3	6252 Theory of Probability II	G 4
Relative recursion; Turing reducibility, structure of Turing degrees; structure of the recursively enumerable degrees and priority arguments; recursion in higher types; generalized recursion; Borel and projective sets; determinacy.		Central limit theorems; Poisson processes; random walks, Markov chains; martingales; Brownian motion; stochastic processes.	
Prereq: 5051 (649) or permission of department. Not open to students with credit for 747.		Prereq: 6251 (723). Not open to students with credit for 724.	
6411 Ordinary Differential Equations I	G 3	6411 Ordinary Differential Equations I	G 3
Existence, uniqueness and smooth dependence; linear systems; periodic and homoclinic orbits; stability, hyperbolicity; stable, unstable, and center invariant manifolds; bifurcations of equilibria and periodic orbits; chaos, strange attractors.		Existence, uniqueness and smooth dependence; linear systems; periodic and homoclinic orbits; stability, hyperbolicity; stable, unstable, and center invariant manifolds; bifurcations of equilibria and periodic orbits; chaos, strange attractors.	
Prereq: Both 5202 and either 2568 (568) or 572. Not open to students with credit for Math 715.		Prereq: Both 5202 and either 2568 (568) or 572. Not open to students with credit for Math 715.	
6451 Partial Differential Equations I	G 3	6451 Partial Differential Equations I	G 3
Second order linear equations; first order equations: conservation laws, Hamilton-Jacobi equations; Fourier and Laplace transform method, Hopf-Cole and Legendre transform, singular perturbation method; Cauchy-Kovalevskaya Theorem.		Second order linear equations; first order equations: conservation laws, Hamilton-Jacobi equations; Fourier and Laplace transform method, Hopf-Cole and Legendre transform, singular perturbation method; Cauchy-Kovalevskaya Theorem.	
Prereq: 6411 (715). Not open to students with credit for 717.		Prereq: 6411 (715). Not open to students with credit for 717.	
6501 Combinatorics and Graph Theory I	G 3	6501 Combinatorics and Graph Theory I	G 3
Enumerative combinatorics: factorials, binomials and multinomials, Stirling approximation, recursion and generating functions, Catalan numbers. Graph theory: Kuratowski's theorem, graph coloring, Ramsey theory, matrix-tree theorem, expander graphs.		Enumerative combinatorics: factorials, binomials and multinomials, Stirling approximation, recursion and generating functions, Catalan numbers. Graph theory: Kuratowski's theorem, graph coloring, Ramsey theory, matrix-tree theorem, expander graphs.	
Prereq: Grad standing in Math; or 4581 and 2568; or permission of instructor.		Prereq: Grad standing in Math; or 4581 and 2568; or permission of instructor.	

6502 Combinatorics and Graph Theory II	G	3
Ramsey theory, extremal graph theory. First moment method, second moment method, alterations. Concentration inequalities. Lovasz local lemma. Martingale methods. Correlation inequalities. Phase transitions. Random trees, random planar maps.		
Prereq: 6501 or permission of instructor.		
6601 Numerical Methods in Scientific Computing I	G	4
What is scientific computing; the evaluation of functions; solving linear systems using Gaussian elimination; finding zeroes and minima of nonlinear equations; bifurcation studies. Prereq: 2415.xx and 2568; or 255 or 415, and 568 or 572. Not open to students with credit for 707.		
6602 Numerical Methods in Scientific Computing II	G	4
Interpolation and approximation theory; numerical differentiation and integration; time evolution ODEs; boundary value ODEs; eigenvalues, including Krylov subspace methods; solving linear systems using iterative methods.		
Prereq: 6601 (708). Not open to students with credit for 709.		
6701 Differentiable Manifolds	G	3
Differentiable manifolds; vector bundles, existence theorem for ODE, flows, sprays; vector fields, differential operators, Lie and exterior derivatives; Poincare Lemma, Darboux's Theorem; Frobenius's Theorem, Lie groups; de Rham cohomology.		
Prereq: Grad standing or all of 5201 (652), and either 2568 (568) or 572, and 2153.01 (254). Not open to students with credit for 765.		
6702 Differential Geometry	G	3
Riemannian manifolds, distance, volume; covariant derivatives, Levi-Civita connection; geodesics, curvatures: sectional, Ricci, scalar; Jacobi fields, conjugate points; Rauch comparison, Hopf-Rinow, Hadamard, Preissman's and Berger's Sphere Theorems.		
Prereq: 6701 (765). Not open to students with credit for 766.		
6801 Algebraic Topology I	G	3
Simplicial and CW- complexes, operations on spaces; homotopy and homeomorphism type; fundamental group, Seifert Van-Kampen Theorem; classification of covering spaces; singular and simplicial homology, chain maps, homotopy invariance, functoriality.		
Prereq: Grad standing or both 5801 (640) and 5111 (670). Not open to students with credit for 756.		
6802 Algebraic Topology II	G	3
Homology of pairs, excision, axioms; Mayer-Vietoris, cellular homology; cohomology groups, Ext and Tor functors, universal coefficients; Künneth Theorem; Orientation on manifolds; fundamental class; Poincare, Alexander, and Lefschetz duality.		
Prereq: 6801 (756). Not open to students with credit for 758.		
6998 Graduate Research	G	1 - 16
Graduate research, primarily for Masters and beginning PhD students participating in research projects other than their thesis work.		
Prereq: Permission of department. Repeatable. This course is graded S/U.		
6999 Graduate Thesis Research	G	1 - 16
Graduate research, primarily for students working on their master theses.		
Prereq: Permission of department. Repeatable. This course is graded S/U.		
7121.01 Algebraic Number Theory	G	3
Algebraic integers, Dedekind domains, ideal class group; Galois theory of prime ideals, Frobenius automorphisms; geometry of numbers; cyclotomic fields, class field theory over \mathbb{Q} ; quadratic fields; local fields; ideles and adeles.		
Prereq: 6112. Not open to students with credit for 7121.02.		
7121.02 Algebraic Number Theory	G	3
Algebraic integers, Dedekind domains, ideal class group; Galois theory of prime ideals, Frobenius automorphisms; geometry of numbers; cyclotomic fields, class field theory over \mathbb{Q} ; quadratic fields; local fields; ideles and adeles.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7122.01 Analytic Number Theory	G	3
Properties and examples of L-functions; primes in arithmetic progression; Riemann-Weil formula; non-vanishing theorem; analysis of L-functions on the critical line; principle of large sieve; Brauer-Siegel theorem, Ikehara-Tauberian theorem.		
Prereq: 7121.01 and 6222. Not open to students with credit for 7122.02.		
7122.02 Analytic Number Theory	G	3
Properties and examples of L-functions; primes in arithmetic progression; Riemann-Weil formula; non-vanishing theorem; analysis of L-functions on the critical line; principle of large sieve; Brauer-Siegel theorem, Ikehara-Tauberian theorem. This course section is open only to mathematics postcandidacy students.		
Prereq: Permission of instructor. This course is graded S/U.		
7141.01 Algebraic Geometry I	G	3
Affine and quasi-projective varieties; morphisms and rational maps; nonsingular varieties; sheaves and schemes; first properties of schemes; separated and proper maps of schemes.		
Prereq: 6112 and 6151. Not open to students with credit for 7141.02.		
7141.02 Algebraic Geometry I	G	3
Affine and quasi-projective varieties; morphisms and rational maps; nonsingular varieties; sheaves and schemes; first properties of schemes; separated and proper maps of schemes.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7142.01 Algebraic Geometry II	G	3
Sheaves of Modules, quasi-coherent and coherent sheaves; divisors, projective morphism; sheaf of differentials; derived functors and sheaf cohomology; coherent sheaf cohomology of schemes; Serre's Duality, higher direct images, flat and smooth maps.		
Prereq: 7141.01. Not open to students with credit for 7142.02.		
7142.02 Algebraic Geometry II	G	3
Sheaves of Modules, quasi-coherent and coherent sheaves; divisors, projective morphism; sheaf of differentials; derived functors and sheaf cohomology; coherent sheaf cohomology of schemes; Serre's Duality, higher direct images, flat and smooth maps.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7161.01 Lie Algebras	G	3
Nilpotent and solvable Lie algebras; structure and classification of simple Lie algebras; Levi-Malcev decomposition; root systems; Dynkin diagrams; introduction to representation of complex semi-simple Lie algebras; universal enveloping algebra.		
Prereq: 6111, or instructor permission.		
7161.02 Lie Algebras	G	3
Nilpotent and solvable Lie algebras; structure and classification of simple Lie algebras; Levi-Malcev decomposition; root systems; Dynkin diagrams; introduction to representation of complex semi-simple Lie algebras; universal enveloping algebra.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7162.01 Lie Groups and Representation Theory	G	3
Basic group theory constructions; passage between a Lie group and its Lie algebra; homogeneous spaces; maximal tori; unitary trick and complete reducibility; classification of irreducible unitary representations; Cartan-Weyl theory.		
Prereq: 7161.01 and 6701. Not open to students with credit for 7162.02.		
7162.02 Lie Groups and Representation Theory	G	3
Basic group theory constructions; passage between a Lie group and its Lie algebra; homogeneous spaces; maximal tori; unitary trick and complete reducibility; classification of irreducible unitary representations; Cartan-Weyl theory. This course section is open only to mathematics postcandidacy students.		
Prereq: Permission of instructor. This course is graded S/U.		
7193 Individual Studies in Mathematics	G	1 - 9
Individual studies.		
Prereq: Permission of department. Repeatable. This course is graded S/U.		
7194 Group Studies in Mathematics	G	1 - 9
Designed to give groups of advanced PhD students an opportunity to pursue special studies not otherwise offered.		
Prereq: Permission of department. Repeatable.		
7211.01 Functional Analysis I	G	3
Linear spaces and linear maps; Hahn-Banach theorem and its applications; normed linear spaces and their duals; Hilbert spaces and applications; weak and weak* topologies; Choquet theorems; bounded linear maps.		
Prereq: 6212. Not open to students with credit for 7211.02.		
7211.02 Functional Analysis I	G	3
Linear spaces and linear maps; Hahn-Banach theorem and its applications; normed linear spaces and their duals; Hilbert spaces and applications; weak and weak* topologies; Choquet theorems; bounded linear maps.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7212.01 Functional Analysis II	G	3
Banach algebras, elementary spectral theory; Gelfand's theory of commutative Banach algebras; examples of families of operators; spectral theory of normal, unitary, self-adjoint operators; semigroups of operators; distributions; applications.		
Prereq: 7211.01. Not open to students with credit for 7212.02.		
7212.02 Functional Analysis II	G	3
Banach algebras, elementary spectral theory; Gelfand's theory of commutative Banach algebras; examples of families of operators; spectral theory of normal, unitary, self-adjoint operators; semigroups of operators; distributions; applications.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7221.01 Ergodic Theory I	G	3
Measure preserving transformations; isomorphism, conjugacy, spectral isomorphism; measure preserving systems with discrete spectrum; hierarchy of mixing properties; invariant measures for continuous transformations; topological and symbolic dynamics.		
Prereq: 6211. Not open to students with credit for 7221.02.		
7221.02 Ergodic Theory I	G	3
Measure preserving transformations; isomorphism, conjugacy, spectral isomorphism; measure preserving systems with discrete spectrum; hierarchy of mixing properties; invariant measures for continuous transformations; topological and symbolic dynamics.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7222.01 Ergodic Theory II	G	3
Entropy; topological entropy; flows on homogeneous spaces; structure theory of measure preserving systems; applications to combinatorics and number theory.		
Prereq: 7221.01. Not open to students with credit for 7222.02.		

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7222.02 Ergodic Theory II	G	3	7711.01 Riemannian Geometry	G	3
Entropy; topological entropy; flows on homogeneous spaces; structure theory of measure preserving systems; applications to combinatorics and number theory. This course section is open only to mathematics postcandidacy students.			Basic concepts of (pseudo) Riemannian geometry, such as curvature and Ricci tensors, Riemannian distance, geodesics, the Laplacian, and proofs of some fundamental results, including the Frobenius and Lie-subgroup theorems, the local structure of constant-curvature metrics, characterization of conformal flatness, the Hopf-Rinow, Myers, Lichnerowicz and Singer-Thorpe theorems.		
Prereq: Permission of instructor. This course is graded S/U.			Prereq: 6702. Not open to students with credit for 7711.02.		
7412.01 Ordinary Differential Equations II	G	3	7711.02 Riemannian Geometry	G	3
Topological equivalence of nonlinear systems; normal forms of Poincare-Dulac-Birkhoff; classification of vector fields near critical points; local bifurcation theory; topological dynamics; limit sets; flows on the torus.			Basic concepts of (pseudo) Riemannian geometry, such as curvature and Ricci tensors, Riemannian distance, geodesics, the Laplacian, and proofs of some fundamental results, including the Frobenius and Lie-subgroup theorems, the local structure of constant-curvature metrics, characterization of conformal flatness, the Hopf-Rinow, Myers, Lichnerowicz and Singer-Thorpe theorems.		
Prereq: 6451. Not open to students with credit for 7412.02.			Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7412.02 Ordinary Differential Equations II	G	3	7721.01 Kahler Geometry	G	3
Topological equivalence of nonlinear systems; normal forms of Poincare-Dulac-Birkhoff; classification of vector fields near critical points; local bifurcation theory; topological dynamics; limit sets; flows on the torus.			Basic concepts of Kahler geometry, such as the Kahler and Ricci forms, positivity/negativity in cohomology, Kahler-Einstein metrics, and proofs of some fundamental results, including the d-bar lemma, Calabi's uniqueness theorems, Matsushima's reductivity theorem for Kahler-Einstein manifolds, and Futaki's isomorphism theorem.		
Prereq: Post-candidacy standing in Math, and permission of instructor. This course is graded S/U.			Prereq: 6701 and 6221. Not open to students with credit for 7721.02.		
7413 Ordinary Differential Equations III	G	3	7721.02 Kahler Geometry	G	3
Structural stability; singularity theory of Thom and Arnol'd; versal deformations; global deformations at separatrix cycle; Anosov diffeomorphisms; Axiom A; symbolic dynamics.			Basic concepts of Kahler geometry, such as the Kahler and Ricci forms, positivity/negativity in cohomology, Kahler-Einstein metrics, and proofs of some fundamental results, including the d-bar lemma, Calabi's uniqueness theorems, Matsushima's reductivity theorem for Kahler-Einstein manifolds, and Futaki's isomorphism theorem.		
Prereq: 7412 (821). Not open to students with credit for 822.			Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7452.01 Partial Differential Equations II	G	3	7811.01 Homotopy Theory	G	3
Sobolev spaces, Sobolev inequalities and embedding theorems; Lax-Milgram theorem, Fredholm alternatives, weak compactness; linear elliptic equations: existence, regularity, maximum principles; hyperbolic equations; first order hyperbolic systems.			Homotopy groups, Whitehead's theorem, CW approximation; homotopy excision, Hurewicz theorem; fibrations, mapping path and loop spaces; fibre bundles, sphere bundles over spheres; obstruction theory, relation to cohomology; Postnikov towers.		
Prereq: 6451 and 6212. Not open to students with credit for 7452.02.			Prereq: 6802. Not open to students with credit for 7811.02.		
7452.02 Partial Differential Equations II	G	3	7811.02 Homotopy Theory	G	3
Sobolev spaces, Sobolev inequalities and embedding theorems; Lax-Milgram theorem, Fredholm alternatives, weak compactness; linear elliptic equations: existence, regularity, maximum principles; hyperbolic equations; first order hyperbolic systems.			Homotopy groups, Whitehead's theorem, CW approximation; homotopy excision, Hurewicz theorem; fibrations, mapping path and loop spaces; fibre bundles, sphere bundles over spheres; obstruction theory, relation to cohomology; Postnikov towers.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.			Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7453.01 Partial Differential Equations III	G	3	7851.01 Differential Topology I	G	3
Harnack inequalities, De Giorgi-Nash-Moser theory; calculus of variations; monotonicity and sub-super solution methods, Pohozaev identity; hyperbolic conservation laws; quasilinear elliptic and parabolic equations; Schauder theory; strong solutions.			Whitney Immersion and Embedding Theorems, transverse functions, jet-bundles, Thom transversality; classification of vector bundles, collars, tubular neighborhoods, intersection theory; Morse functions and lemma; surgery, Smale cancellation.		
Prereq: 7452.01. Not open to students with credit for 7453.02.			Prereq: 6701 and 6801. Not open to students with credit for 7851.02.		
7453.02 Partial Differential Equations III	G	3	7851.02 Differential Topology I	G	3
Harnack inequalities, De Giorgi-Nash-Moser theory; calculus of variations; monotonicity and sub-super solution methods, Pohozaev identity; hyperbolic conservation laws; quasilinear elliptic and parabolic equations; Schauder theory; strong solutions.			Whitney Immersion and Embedding Theorems, transverse functions, jet-bundles, Thom transversality; classification of vector bundles, collars, tubular neighborhoods, intersection theory; Morse functions and lemma; surgery, Smale cancellation.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.			Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7611 Computational Partial Differential Equations I	G	3	7852.01 Differential Topology II	G	3
Numerical methods for boundary value problems (BVP); extension to separable elliptic PDEs, fast solvers; irregular domains, variable coefficients; iterative methods; diffusion equations; error analysis; variable coefficients in nonlinear problems.			DeRahm and Cech cohomology; deRahm Theorem; Grassmannians; Stiefel-Whitney, Euler, Chern, and Pontryagin classes; Gysin sequence, Thom isomorphism; characteristic numbers, multiplicative sequences, Hirzebruch signature theorem; Chern-Weil Theory.		
Prereq: 6602 (709). Not open to students with credit for 807.			Prereq: 6702 and 6802 and 7851.01. Not open to students with credit for 7852.02.		
7612 Computational Partial Differential Equations II	G	3	7852.02 Differential Topology II	G	3
Linear hyperbolic equations, finite difference methods; quasi-linear and non-linear equations with shock formation, Lax-Wendroff theorem; flux-limiters, WENO methods; multi-dimensional problems; transport equations; adaptive grids, grid generation.			DeRahm and Cech cohomology; deRahm Theorem; Grassmannians; Stiefel-Whitney, Euler, Chern, and Pontryagin classes; Gysin sequence, Thom isomorphism; characteristic numbers, multiplicative sequences, Hirzebruch signature theorem; Chern-Weil Theory.		
Prereq: 7611 (808). Not open to students with credit for 809.			Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.		
7651.01 Applied Complex Variables and Asymptotics I	G	3	7998 Graduate Research	G	1 - 16
Contour integration, conformal mapping; asymptotics of integrals; asymptotic properties of Laplace and Fourier transforms; Riemann-Hilbert problems, applications to singular integral equations; introduction to the theory of elliptic functions.			Graduate Research, primarily for intermediate PhD students participating in research projects other than their thesis work.		
Prereq: 5251 and 5201 and 6451. Not open to students with credit for 7651.02.			Prereq: Permission of the department. Repeatable. This course is graded S/U.		
7651.02 Applied Complex Variables and Asymptotics I	G	3	8000 Topics in Foundations of Mathematics	G	3
Contour integration, conformal mapping; asymptotics of integrals; asymptotic properties of Laplace and Fourier transforms; Riemann-Hilbert problems, applications to singular integral equations; introduction to the theory of elliptic functions.			Special topics in foundations of mathematics chosen by the instructor.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.			Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.		
7652.01 Applied Complex Variables and Asymptotics II	G	3	8110 Topics in Algebra	G	3
Asymptotic expansions; Watson's and Borel-Ritt lemma, stationary phase, steepest descent methods; contractive mapping methods; WKB and boundary layer methods; analyzable functions, transseries; Borel transform; Borel summability of solutions.			Special topics in algebra chosen by the instructor.		
Prereq: 7651.01. Not open to students with credit for 7652.02.			Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.		
7652.02 Applied Complex Variables and Asymptotics II	G	3	8120 Topics in Number Theory	G	3
Asymptotic expansions; Watson's and Borel-Ritt lemma, stationary phase, steepest descent methods; contractive mapping methods; WKB and boundary layer methods; analyzable functions, transseries; Borel transform; Borel summability of solutions.			Special topics in number theory chosen by the instructor.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.			Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.		
7652.02 Applied Complex Variables and Asymptotics II	G	3	8140 Topics in Algebraic Geometry	G	3
Asymptotic expansions; Watson's and Borel-Ritt lemma, stationary phase, steepest descent methods; contractive mapping methods; WKB and boundary layer methods; analyzable functions, transseries; Borel transform; Borel summability of solutions.			Special topics in algebraic geometry chosen by the instructor.		
Prereq: Post-candidacy in Math, and permission of instructor. This course is graded S/U.			Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.		

8160 Topics in Representation Theory	G	3	3210 Food Animal Processing	U	3
Special topics in representation theory chosen by the instructor.			Hands-on application of the procedures involved with food animal harvest, inspection, carcass fabrication and merchandising retail products.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq or concur: 3110 or AnimSci 3110. Not open to students with credit for AnimSci 355.02.		
8210 Topics in Real Analysis	G	3	3310 Meat Animal and Carcass Evaluation	U	3
Special topics in real analysis chosen by the instructor.			Evaluating the factors that influence the value of meat animals and their resulting carcasses, wholesale and retail cuts in accordance with recognized grading standards; laboratory practice.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: Not open to students with credit for AnimSci 305.		
8220 Topics in Complex Analysis	G	3	3488 Professional Development in Meat Science	U	1 - 2
Special topics in complex analysis chosen by the instructor.			Participation in structured co-curricular programs leading to professional development.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: CPHR 2.0 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
8250 Topics in Probability Theory	G	3	4193 Individual Studies	U	1 - 3
Special topics in probability theory chosen by the instructor.			Special assignments and advanced research; problems assigned after consultation with the instructor in charge.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
8300 Topics in Financial Mathematics	G	3	4194 Group Studies	U	1 - 3
Special topics in financial mathematics chosen by the instructor.			Special topics area group studies finally proposed for a specific semester by an animal science faculty member.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
8410 Topics in Ordinary Differential Equations	G	3	4510 Processed Meats	U	3
Special topics in ordinary differential equations chosen by the instructor.			Exploring fundamental changes in soft animal tissues resulting from comminution and application of non-meat ingredients and a variety of cooking methodologies to enhance palatability and value.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq or concur: 3110, AnimSci 3110, or FdScTe 2400. Not open to students with credit for AnimSci 555.02.		
8420 Topics in Partial Differential Equations	G	3	4999 Research with Distinction	U	1 - 5
Special topics in partial differential equations chosen by the instructor.			Conducting and reporting research with Distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: CPHR 3.0 overall, GPA 3.0 or above in major, and permission of project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		
8500 Topics in Combinatorics	G	3	4999H Honors Research with Distinction	U	1 - 5
Special topics in combinatorics chosen by the instructor.			Conducting and reporting honors research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: Honors standing, FAES 4590.01H (590H), CPHR 3.4 or above, major GPA 3.4 or above, and permission of instructor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.		
8610 Topics in Applied Mathematics	G	3	5310 Auditing Processing Facilities	U G	2
Special topics in applied mathematics chosen by the instructor.			Auditing programs and processes used in the food animal processing industry.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: 3110 (AnimSci 355.01).		
8650 Topics in Mathematical Biology	G	3	5410 Meat Industry Tour	U G	2
Special topics in mathematical biology chosen by the instructor.			Exploration of meat processing facilities.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: 3110 (AnimSci 355.01).		
8710 Topics in Differential Geometry	G	3	5510 Advanced Meat Science	U G	3
Special topics in differential geometry chosen by the instructor.			Exploration of the antemortem and postmortem biochemical principles in skeletal muscle underlying protein functionality and resulting meat quality.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: 3110 or AnimSci 3110. Not open to students with credit for AnimSci 605.		
8750 Topics in Lie Theory	G	3	5810 Branded Meat Products	U G	4
Special topics in Lie theory chosen by the instructor.			Integration of multiple factors influencing value-added product development including: raw material quality and procurement, processing, packaging, distribution, and complexity of market development and current consumer trends in niche marketing.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: 3110 or AnimSci 3110, and completion of a second writing course. Not open to students with credit for AnimSci 5810 or 555.03. Cross-listed in AnimSci.		
8800 Topics in Topology	G	3	6510 Advanced Meat Technology	G	3
Special topics in topology chosen by the instructor.			In depth exploration and analysis of the processes influencing the palatability, wholesomeness and value of muscle foods.		
Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.			Prereq: 5510 (AnimSci 605), or Grad standing. Not open to students with credit for AnimSci 650.		
8998 Graduate Research	G	1 - 16			
Graduate research, primarily for advanced PhD students participating in research projects other than their thesis work.					
Prereq: Permission of department. Repeatable to a maximum of 20 completions. This course is graded S/U.					
8999 Dissertation Research	G	1 - 16			
Graduate research for students working on their PhD dissertation.					
Prereq: Permission of department. Repeatable. This course is graded S/U.					

Meat Science

1100 Exploring Meat Sciences	U	½	2010 Statics	U	2
Basic understanding of departmental degrees and academic opportunities for undergraduate development.			Vector concepts of static equilibrium for isolated and connected bodies, centroids, inertia, truss, frame and machine analysis, and friction.		
Cross-listed in AnimSci.			Prereq: Engr 1181 or 1187 or 1281H, and Physics 1250 or 1260, and Math 1151 or 1161. Not open to students with credit for 2010H or 2040.		
2010 Bar-B-Que Science	U	2			
Investigating methods to prepare various meat products. Students will gain experience in matching proper cooking methods with different muscles to produce wholesome and palatable products. Students will be introduced to product sensory techniques.					
3110 Introductory Meat Science	U	3			
Analysis of the principles of meat science as related to meat animal value factors, processing technology, and merchandising systems affecting the producer, processor, and consumer.					
Prereq: Biology 1101 or 1113. Not open to students with credit for AnimSci 3110. Cross-listed in AnimSci.					
3191 Internship in Meat Science	U	2			
Supervised preplanned employment experience and/or on-site problem solving study program.					
Prereq: 12 cr hrs in MeatSci and/or AnimSci, and permission of academic advisor. This course is graded S/U. Cross-listed in AnimSci.					

Mechanical Engineering

298 Mechanical Engineering

2010H	Statics	U	2	3501	Introduction to Engineering Thermodynamics	U	3
	Vector concepts of static equilibrium for isolated and connected bodies, centroids, inertia, truss, frame and machine analysis, friction and virtual work.				Principles of engineering thermodynamics from the classical perspective, including first and second laws of thermodynamics, with selected applications.		
	Prereq: Honors standing, and Engr 1181 or 1187 or 1281H, and Math 1151 or 1161. Prereq or concur: Physics 1250 or 1260. Not open to students with credit for 2040.				Prereq: 2850 (250), and 2900, and Chem 1250 (121), 1220, or 131; and enrollment as MechEng-BS student; or permission of instructor. Not open to students with credit for 3502, 501, or 502, or to MechEng pre-majors.		
2020	Introduction to Mechanics of Materials	U	3	3503	Introduction to Fluid Mechanics	U	3
	Stress and strain analysis of deformable structural components subjected to unidirectional and combined loads; pressure vessels; stress transformations (Mohr's Circle); beam deflections; column buckling.				A study of the basic concepts, fundamental equations, and applications of fluid mechanics to engineering problems.		
	Prereq: 2010 (410) or 2010H (210H). Not open to students with credit for 2040 (420).				Prereq: 2850 (250), and 3501 (501) or 3502, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor. Not open to students with credit for 503 or 504.		
2030	Dynamics	U	3	3670	Design and Analysis of Machine Elements I	U	2
	Dynamics of particles and rigid bodies; linear and angular motion; work and energy; and single degree of freedom vibration analysis.				Design of mechanisms. Application of general mechanical engineering principles to the design and analysis of mechanical components.		
	Prereq: 2010 (410) or 2010H (210H) or 2040. Not open to students with credit for 430.				Prereq: 2020 (420) and 2030 (430) and 2900 and 2850 (250), and enrollment as MechEng-BS student; or permission of instructor. Not open to students with credit for 553 or 561 or to MechEng pre-majors.		
2040	Statics and Introduction to Mechanics of Materials	U	4	3671	Design and Analysis of Machine Elements II	U	3
	Vector concepts of static equilibrium, truss, frame and machine analysis. Stress and strain analysis of deformable structural components; stress transformations; beam deflections; column buckling.				Continuation of 3670 and 3571.		
	Prereq: Engr 1181 (Engineer 181) or 1187 (187) or 1281H (192H), and Physics 1250 (131) or 1260, and Math 1152 (152) or 1161 (161) or 1172 or 1181H. Not open to students with credit for 2040 (420).				Prereq: 3670 or 3676, and 3751, and enrollment as MechEng-BS student; or permission of instructor. Not open to students with credit for 563, or to MechEng pre-majors.		
2193	Individual Studies in Mechanical Engineering	U	1 - 5	3751	Kinematics and Mechanism Design	U	2
	Designed to give the advanced student opportunity to pursue special studies not otherwise offered.				This course is intended to help students develop an intuitive understanding of the design concepts for machinery and mechanisms. Topics covered are: kinematic joints, mobility analysis, kinematic synthesis of planar linkages, computer-aided design of mechanisms, kinematic analysis, Cam motion program synthesis, and cam profile design.		
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.				Prereq: 2030 and 2900, or permission of instructor. Not open to students with credit for 3670 (Au17 or before), 3553, or 553.		
2194	Group Studies in Mechanical Engineering	U	1 - 5	3870	Introduction to Measurements and Data Analysis in Mechanical Engineering	U	3
	Special topics in Mechanical Engineering. The particular topic, credit hours, and the instructor will be announced the semester previous to the one in which the course is offered.				Foundation in experimental measurement and data analysis in mechanical engineering; team planning and execution of experiments; technical report writing.		
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.				Prereq: Stat 3450 or equiv, and 3260 (482) or 3261, and a second writing course, and enrollment in Mechanical Engineering major; or permission of instructor. Prereq or concur: 3503 (504) or 3504. Not open to students with credit for 570.		
2194H	Group Studies in Mechanical Engineering	U	1 - 5	4193	Individual Studies in Mechanical Engineering	U	1 - 5
	Special topics in mechanical engineering. The particular topic, credit hours, and the instructor will be announced the semester previous to the one in which the course is offered.				Designed to give the advanced student opportunity to pursue special studies not otherwise offered.		
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.				Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.		
2850.01	Numerical Methods in Mechanical Engineering	U	3	4194	Group Studies in Mechanical Engineering	U	1 - 5
	Numerical solutions of nonlinear equations, systems of linear equations, interpolation, curve-fitting, ordinary differential equations.				Special topics in mechanical engineering. The particular topic, credit hours, and the instructor will be announced the semester previous to the one in which the course is offered.		
	Prereq: Enrollment as MechEng-BS student (No ME pre-majors can enroll in this course), or permission of instructor. Prereq or concur: Math 2174 or 2415 (415), or equiv. Not open to students with credit for 250.				Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.		
2850.02	Numerical Methods in Mechanical Engineering	U	3	4194H	Group Studies in Mechanical Engineering	U	1 - 5
	Numerical solutions of nonlinear equations, systems of linear equations, interpolation, curve-fitting, ordinary differential equations.				Special topics in Mechanical Engineering. The particular topic, credit hours, and the instructor will be announced the semester previous to the one in which the course is offered.		
	Prereq: Enrollment as IndEng-BS or ISE-PRE student, or permission of instructor. Prereq or concur: Math 2174 or 2415. Not open to students with credit for 250.				Prereq: Honors standing, and enrollment in MechEng major; or permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.		
2900	Introduction to Design in Mechanical Engineering	U	3	4505	Introduction to Nuclear Science and Engineering	U	3
	Introduction to the discipline of Mechanical Engineering through a structured design, build, and test sequence. Students will fabricate apparatus which requires a basic understanding of the full scope of Mechanical Engineering.				Discussion of nuclear energy and nuclear radiation; sources, methods of utilization, and projections for future engineering uses.		
	Prereq: Enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.				Prereq: Math 2173, 2177, 2255 (255), or 2415 (415); and Physics 1251 (133), or permission of instructor. Not open to students with credit for 505 or NuclEn 4505 (505). Cross-listed in NuclEn.		
3260	System Dynamics and Vibrations	U	3	4510	Heat Transfer	U	3
	Applications of ordinary differential equations, Laplace transforms, transfer function analysis to first and second order systems, and single-degree-of-freedom mechanical and electrical systems.				A study of the fundamentals of conduction, convection, and thermal radiation energy transfer with engineering applications.		
	Prereq: 2850 (250) and 2900, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor. Prereq or concur: ECE 2300 or 2300.01 or 320. Not open to students with credit for 481 or 650.				Prereq: 3503 (504) or 3504, and MechEng-BS student (no pre-majors); or permission of instructor. Not open to students with credit for 510.		
3360	System Integration and Control	U	3	4536	Nuclear Reactor Systems	U	3
	Modeling of a variety of multi-domain systems, including electromechanical actuators, principles of feedback control, and analysis of control systems.				Introductory course covering concepts of nuclear power reactor systems, thermal and mechanical design aspects, and economics of nuclear power plants.		
	Prereq: 3260 or 3261, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor. Prereq or concur: 3503 (504) or 3504. Not open to students with credit for 482 or 571.				Prereq: 4505 (505) or NuclEn 4505 (505); or permission of instructor. Not open to students with credit for 6536 (736), NuclEn 4536 (736), or 6536 (736). Cross-listed in NuclEn.		
3500	Engineering Thermal Sciences	U	3	4684	Product Design Capstone I	U	4
	Introduction to thermodynamics, fluid mechanics and heat transfer with engineering applications.				Fundamentals of the product design process, from concept creation to final implementation, including product architecture and design for manufacture and assembly. Part I will end with initial build and Part II will continue with implementation and testing.		
	Prereq: Math 2174 or 2177 or 2255 (255) or 2415 (415), and Physics 1250 (131). Not open to students with credit for 500 or enrolled in MechEng major.				Prereq: 3671 (563), and 3360 or 3361 (571); and 3870 (570). Prereq or concur: 4510 (510), and enrollment as MechEng-BS student; or permission of instructor. Not open to students with credit for 5682 (682) or ISE 5682 (682) or 5560.		

4685 Product Design Capstone II
U 2

Fabrication and testing of the product prototype developed in MechEng 4684, Product Design Capstone I.
Prereq: 4684.

4870 Mechanical Engineering Capstone Laboratory
U 2

Builds upon prior laboratory experiences and integrates thermal and mechanical system concepts; focus on problem solving using experimental and analytical/computational methods. Prereq: 3360 or 3361 (571), and 3671 (563) and 3870 (570) and 4510 (510), and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor. Not open to students with credit for 512 or 581.

4900 ME Capstone Design I
U 1½

First course of 2-semester senior capstone series. Fundamentals of engineering design process and the technical and professional skills needed in Mechanical Engineering. Lectures, hands-on project.

Prereq: 3671 (563), and 3360 or 3361 (571); and 3870 (570). Prereq or concur: 4510 (510); and enrollment as MechEng-BS student; or permission of instructor. Concur: 4901.01 or 4902.01 or 4903.01 or 4904.01 or 4905.01. Not open to students with credit for Engr 4901 (658), 564, or 565, or MechEng pre-majors.

4901.01 ME Capstone Design II: General Projects
U 1

Second course of 2-semester capstone sequence. Students work on design problems proposed by faculty. Emphasis on problem definition, requirements, and design proposal. Concur: 4900, and enrollment as MechEng-BS student; or permission of instructor. Not open to MechEng pre-majors. This course is progress graded.

4901.02 ME Capstone Design III: General Projects
U 2½

Third course of 2-semester senior capstone series. Complete work on design problem proposed by faculty. Emphasis on detailed design, prototype, evaluation, and documentation. Prereq: 4901.01, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.

4902.01 ME Capstone Design II: Student Design Competitions
U 1

Second course of 2-semester capstone sequence. Students work on design problems arising from various student competitions in engineering. Emphasis on problem definition, requirements, and design proposal.

Concur: 4900, and enrollment as MechEng-BS student; or permission of instructor. Not open to MechEng pre-majors. This course is progress graded.

4902.02 ME Capstone Design III: Student Design Competitions
U 2½

Third course of 2-semester senior capstone series. Complete work on design project associated with student design competitions. Emphasis on detailed design, prototype, evaluation, and documentation.

Prereq: 4902.01, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.

4903.01 ME Capstone Design II: Industry Projects
U 1

Second course of 2-semester capstone sequence. Students work on design problems sponsored and/or proposed by industry. Emphasis on problem definition, requirements, and design proposal.

Concur: 4900, and enrollment as MechEng-BS student; or permission of instructor. Not open to MechEng pre-majors. This course is progress graded.

4903.02 ME Capstone Design III: Industry Projects
U 2½

Third course of 2-semester senior capstone series. Complete work on design project from industry. Emphasis on detailed design, prototype, evaluation, and documentation.

Prereq: 4903.01, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.

4904.01 ME Capstone Design II: Humanitarian Projects
U 1

Second course of 2-semester capstone sequence. Students work on design problems that have a humanitarian focus. Emphasis on problem definition, requirements, and design proposal.

Concur: 4900, and enrollment as MechEng-BS student; or permission of instructor. Not open to MechEng pre-majors. This course is progress graded.

4904.02 ME Capstone Design III: Humanitarian Projects
U 2½

Third course of 2-semester senior capstone series. Complete work on humanitarian project. Emphasis on detailed design, prototype, evaluation, and documentation.

Prereq: 4904.01, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.

4905.01 ME Capstone Design II: Assistive Devices
U 1

Second course of 2-semester senior capstone series. Students begin to work on assistive devices for persons with disabilities. Emphasis on problem definition, requirements, and design proposal.

Concur: 4900, and enrollment as MechEng-BS student; or permission of instructor. Not open to MechEng pre-majors. This course is progress graded.

4905.02 ME Capstone Design III: Assistive Devices
U 2½

Third course of 2-semester senior capstone series. Complete work on assistive devices for persons with disabilities. Emphasis on detailed design, prototype, evaluation, and documentation.

Prereq: 4905.01, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.

4906.01 ME Capstone Design II: Special Projects
U 1

Second course of 2-semester senior capstone series. Students begin to work on their design project. Emphasis on problem definition, requirements, design proposal. Prereq: 4900. This course is progress graded.

4906.02 ME Capstone Design III: Spec Projects
U 2½

Third course of 2-semester senior capstone series. Complete work on design problem proposed by faculty. Emphasis on detailed design, prototype, evaluation, documentation. Prereq: 4906.01.

4998 Undergraduate Research in Mechanical Engineering
U 1 - 2

Opportunity for undergraduate students to conduct research in Mechanical Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4998H Undergraduate Research in Mechanical Engineering
U 1 - 2

Opportunity for undergraduate Honors program students to conduct research in Mechanical Engineering. Prereq: Honors standing, and enrollment in MechEng major, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4999 Mechanical Engineering Undergraduate Research for Thesis
U 1 - 3

Students are offered the opportunity to pursue independent project/research. Student presentations and undergraduate thesis writing is included.

Prereq: CPHR 3.0 or above, and Sr standing in MechEng major; or permission of instructor. Repeatable to a maximum of 6 cr hrs or 4 completions.

4999H Mechanical Engineering Undergraduate Research for Thesis
U 1 - 3

Honors program students are offered the opportunity to pursue independent project/research. Student presentations and undergraduate Honors thesis writing is included, to enable graduation with Research Distinction in Mechanical Engineering.

Prereq: Honors standing, and CPHR 3.4 or above, and Sr standing in MechEng major; or permission of instructor. Repeatable to a maximum of 6 cr hrs or 4 completions.

5030 Intermediate Dynamics
U G 3

This course emphasizes dynamics of single/multi-degree-of-freedom systems, including particles and rigid bodies, and is aimed as an extensive introduction to the principles of analytical mechanics. Of particular interest is the investigation of Lagrange's equations of motion for particles and rigid bodies.

Prereq: 2030, or permission of instructor. Not open to students with credit for 5194 (Au14 or Sp16).

5134 Introduction to Vibrations of Deformable Solids
U G 3

Introduction to the analysis of the free and forced transverse vibrations of strings, beams, membranes and plates and the longitudinal and torsional vibrations of prismatic bars.

Prereq: 2020 (420) or 2040, and Math 2174, 2177, or 2415 (415), and enrollment in MechEng major; or Grad standing in MechEng. Not open to students with credit for 734.

5139 Applied Finite Element Method
U G 3

Overview of finite element method, description of finite element software, modeling requirements and techniques, analysis using general purpose software, and case studies. Prereq: 2020 (420), 2040, or equiv, and enrollment in MechEng major; or Grad standing in Engineering. Not open to students with credit for 639.

5144 Engineering Fracture Mechanics
U G 3

Fracture and fatigue of solids; stress intensity factors; stability of cracks; compliance and energy methods; plane stress, plane strain effects; crack propagation and arrest criteria.

Prereq: 2020 (420) or 2040, and Math 2174, 2177, or 2415 (415); or Grad standing in Engineering. Not open to students with credit for 744.

5162 Introduction to Laminated Composite Materials
U G 3

Introduction to anisotropic material behavior and failure assessment of laminated composite materials. Classical lamination theory, beams, plates and shells.

Prereq: 2020 (420) or 2040; or Grad standing in Engineering; or permission of instructor. Not open to students with credit for 662, 762, CivilEn 5162, 662, or 762. Cross-listed in CivilEn.

5180 Mechanics of Biomolecular Systems
U G 3

Introduction to biomolecules and systems in the context of cellular functions. In particular the course focuses on the physical properties of biomolecules and the physical interactions that mediate their functions.

Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 694E (Spring 2010).

5194 Group Studies in Mechanical Engineering
U G 1 - 5

Special topics in Mechanical Engineering. The particular topic, credit hours, and the instructor will be announced the semester previous to the one in which the course is offered.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

5234 Vehicle Dynamics
U G 4

A first course in vehicle dynamics devoted to the basic concepts of rubber wheeled vehicles with an actual driving and demonstrated laboratory.

Prereq: 3360 (482) and 3671 (563), or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 654 or 754.

300 Mechanical Engineering

5240	Mechanical Vibrations	U G	3	
	Free and forced vibration analysis of single-degree-of-freedom systems with various forms of damping, vibration isolation and control methods and devices, vibration sensors, equations of motion of multi-degree of freedom systems using Lagrange's method, Eigen value problem, modal analysis method for free and forced vibration analysis, frequency-domain data analysis fundamentals.			
	Prereq: 3260 (481). Prereq or concur: 3360 (482), or Grad standing in Engineering. Not open to students with credit for 650, 666, or 7250.			
5241	Engineering Acoustics	U G	3	
	Acoustics applications survey. Wave propagation phenomena. Introduction to human hearing. Mathematics review. Acoustic wave equation, propagation, and metrics. Instrumentation for and evaluation of acoustic measurements. Understanding acoustic sources and sound radiation characteristics. Introductory architectural acoustics, engineering noise control, and psychoacoustics.			
	Prereq: 3260, or Grad standing, or permission of instructor.			
5339	Simulation Techniques for Dynamic Systems	U G	3	
	Introduction and use of software tools for dynamic system modeling, control system analysis, and design. Application to real world dynamic systems, with emphasis on model development and validation, parameter identification, and results presentation.			
	Prereq: 3360 (571) or equiv, and enrollment in MechEng; or Graduate standing in MechEng; or permission of instructor.			
5372	Design and Control of Mechatronic Systems	U G	3	
	Introduction to multi-domain (mechanical, thermal, fluid, electrical, electronic, electro-mechanical) system design, dynamic modeling, and control system design and analysis techniques.			
	Prereq: 3360 (571) or 3361, or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 672 or 674.			
5374	Smart Materials and Intelligent Systems	U G	3	
	Macromechanical modeling of smart materials including piezoceramics, magnetostrictives, shape memory alloys, magnetorheological fluids, and active polymers. Constitutive and system-level modeling. Design of smart dynamic systems.			
	Prereq: 3360 (571) or 3361, or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 774.			
5427	Introduction to Turbomachinery	U G	3	
	Introduction to analysis and design of turbomachinery.			
	Prereq: 3503 or 3504 (504), or Grad standing in MechEng. Not open to students with credit for 627.			
5502	Engineering Thermodynamics	U G	3	
	Technical elective in Engineering Thermodynamics including energy analysis, non-reacting and reacting gas mixtures, combustion, psychrometrics, chemical and phase equilibrium, thermoeconomics and applications.			
	Prereq: 3501 (501) or 3502, or equiv. Not open to students with credit for 502.			
5512	Design of Heat Exchangers	U G	2	
	Design methods, heat transfer and pressure drop in single phase and two phase heat exchangers. Design of single phase and two phase heat exchangers.			
	Prereq: 4510 (510), or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 612.			
5530	Internal Combustion Engines	U G	3	
	Design and operating characteristics of contemporary internal combustion engines, induction/exhaust breathing, boosting, variable valvetrains, combustion and knock, fuel economy, alternative fuels, and advanced powertrains.			
	Prereq: 3501 or 3502 (502), or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 630.			
5531	Automotive Powertrain Laboratory	U G	2	
	An intensive laboratory course focusing on conventional and advanced automotive powertrains. The course typically covers advanced gasoline engines, diesel engines, hybrid powertrains, and electrochemical energy storage.			
	Prereq: 5530 or 630, or permission of instructor. Not open to students with credit for 631.			
5539	Applied Computational Fluid Dynamics and Heat Transfer	U G	3	
	Introduces basic concepts in Computational Fluid Dynamics (CFD) and Computational Heat Transfer (CHT), teaches thermo-fluid analysis of engineering systems, and enhances understanding of fluid flow and heat transfer.			
	Prereq: 3501 or 3502 (502), and 3503 or 3504 (504). Prereq or concur: 4510 (510), or Grad standing in MechEng.			
5541	Heating, Ventilating, and Air Conditioning	U G	3	
	Analysis of components and systems for heating, ventilating and air-conditioning.			
	Prereq: 4510 (510), or Grad standing in MechEng. Not open to students with credit for 641.			
5550	Engineering Principles in Cancer	U G	3	
	The purpose of this course is to introduce engineering principles in the context of cancer progression and therapy.			
	Prereq: 3500, 3503, or CBE 2420; or permission of instructor. Not open to students with credit for BioMedE 5550 or CBE 5550. Cross-listed in BioMedE and CBE.			
5600	Applied Project Management in Product Development Team Environments	U G	3	
	Students learn to apply project management concepts in product development team environments; includes relevant theory, tools, and techniques used in industry; relevant systems engineering concepts for designing complex products are introduced.			
	Prereq: Jr, Sr, Grad status; and enrollment in College of Engineering or Engineering minor. Not open to with credit for 4194 or 5194.			
5680	Computer Aided Design and Manufacturing	U G	4	
	Design of machine components, surfaces, and assemblies using parametric and feature-based design principles and advanced design tools.			
	Prereq: 3670 (561), or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 621 or 683.			
5682.01	Fundamentals of Product Design Engineering	U G	3	
	Lecture covering the fundamentals of the product design process, from concept creation to final implementation, including product architecture and design for manufacture and assembly. An optional, corresponding project-based lab course (ME/ISE 5683) offers practical application of this material. Only open to students enrolled in majors in the College of Engineering.			
	Prereq: Jr, Sr, or Grad standing in the College of Engineering, or permission of instructor. Not open to students with credit for 4684, 5682 (682), 5682.02, 5684, ISE 5560, 5682 (682), or 5682.02. Cross-listed in ISE.			
5682.02	Product Design Engineering for Entrepreneurs	U G	3	
	An engineering perspective on product development for non-engineering students in the Entrepreneurship & Innovation minor. This course covers fundamentals of the product design process, from user research to concept creation to final implementation and manufacturing. Not open to students in the College of Engineering, does not count as an engineering Technical Elective.			
	Prereq: Enrollment in a major outside of the College of Engineering, and enrollment in the Entrepreneurship & Innovation minor. Not open to students with credit for 5682, 5682.01, 5194 (AU15, SP16, AU16, Abell), ISE 5682, or 5682.01, or enrolled in a major within the College of Engineering.			
5683	Fundamentals of Product Design Engineering Laboratory	U G	1	
	This course is an optional laboratory to go with ISE/ME5682.01. This project-based lab gives students hands-on experience with the product design process introduced in lecture. Students will work with real people to identify opportunities to create innovative, product-based solutions. Students will go through the design process from conducting user research all the way to constructing prototypes.			
	Prereq or concur: 5682.01 or ISE 5682.01, and enrollment in a major within the College of Engineering. Not open to students with credit for 5682, 5682.02, ISE 5682, or 5682.02. Cross-listed in ISE.			
5700	Introduction to Musculoskeletal Biomechanics	U G	3	
	Introduction to field of musculoskeletal biomechanics at a level appropriate for advanced undergraduates and early graduate students. Fundamental anatomy and physiology. Mechanics of muscle, tendon, ligament, meniscus, bone. Equations of motion for movement. Introduction to experimental methods.			
	Prereq: 3670, or permission of instructor. Not open to students with credit for 6700.			
5751	Design and Manufacturing of Compliant Mechanisms and Robots	U G	3	
	Introduces methods and theories for kinematic and force analysis, synthesis of rigid body and compliant (flexible) mechanisms and robots. Pseudo-rigid-body model and CAD/CAE software will be used for modeling and analysis study. Students will be required to work on a team project to solve a real world design problem related to mechanisms and robots.			
	Prereq: 3670 or equiv, or Grad standing in Engineering.			
5797	Study at a Foreign Institution	U G	1 - 10	
	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.			
	Prereq: Permission of department chairperson. Repeatable to a maximum of 15 cr hrs or 2 completions.			
6193	Individual Studies in Mechanical Engineering	G	1 - 5	
	Designed to give the advanced student opportunity to pursue special studies not otherwise offered.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.			
6193.01	Individual Studies in Mechanical Engineering	G	1 - 5	
	Designed to give the advanced student opportunity to pursue special studies not otherwise offered.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.			
6194	Group Studies in Mechanical Engineering	G	1 - 5	
	Special topics in Mechanical Engineering. The particular topic, credit hours, and the instructor will be announced the term preceding the one in which the course is offered.			
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
6501	Gas Dynamics	G	3	
	A study of one-dimensional and two-dimensional steady and one-dimensional unsteady compressible flows.			
	Prereq: 3503 or 3504 (504), and Math 2174, 2255 (255), or 2415 (415); or Grad standing in MechEng; or permission of instructor. Not open to students with credit for 701.			

Mechanical Engineering 301

6505 Intermediate Fluid Dynamics G 3

Principles and derivations of fundamental equations for incompressible flows with a special emphasis on formulation of problems.
Prereq: 3503, or Grad standing in MechEng or AeroEng; or permission of instructor. Not open to students with credit for 705.

6507 Intermediate Numerical Methods G 3

Numerical techniques and computer algorithms to solve initial and boundary value problems relevant to engineering applications, such as heat conduction and mass diffusion.
Prereq: 2850 (250), Math 2174 (568), 2415 (415), or 4512 (557 or 512); or Grad standing in MechEng, AeroEng, or NuclEn; or permission of instructor. Not open to students with credit for 707 or NuclEn 6507 (707). Cross-listed in NuclEn.

6510 Intermediate Heat Transfer G 3

In-depth derivation of equations and principles governing heat transfer with an emphasis on formulation of problems. Mass transfer is also introduced.
Prereq: Grad standing in MechEng or AeroEng; or permission of instructor. Not open to students with credit for 710.

6515 Introduction to Microfluidics and Nanofluidics G 3

Principles of incompressible fluid mechanics & electrokinetic phenomena at the micro & nanoscale; biomedical applications with a laboratory illustrating fabrication techniques & experimental methods. Undergrad students encouraged to seek permission.
Prereq: 3503 or 3504 (504) or equiv, or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 715 or BiomedE 5663. Cross-listed in BiomedE 5663.

6526 Combustion G 3

Fundamentals of energy conversion through combustion, thermodynamics and chemical kinetics of combustion, premixed flames, deflagration vs. detonation waves, diffusion flames, droplet combustion, and thermal ignition.
Prereq: 3503, 3504 (504), or 4510 (510), or permission of instructor. Not open to students with credit for 726.

6536 Nuclear Reactor Systems and Analysis G 3

Intermediate-level course covering thermal and mechanical design aspects of nuclear power plants. The thermodynamics of operating nuclear power plants (BWRs and PWRs) are emphasized.
Prereq: 4505 (505) or NuclEn 4505 (505); and MechEng 3501 or 3502 (502), or equiv; or permission of instructor. Not open to students with credit for 736 or NuclEn 6536 (763). Cross-listed in NuclEn.

6537 Nuclear Reactor Thermal Hydraulics G 3

Focuses on heat transfer and fluid flow applications in nuclear power reactor systems, including heat transfer in LWR fuel rods, coolant, and reactor internals.
Prereq: 6536 or NuclEn 6536, or equiv, or permission of instructor. Not open to students with credit for 737 or NuclEn 6537 (737). Cross-listed in NuclEn.

6665 Reliability Engineering I G 3

Focuses on system level reliability modeling approaches. Engineering system reliability modeling and prediction; reliability of programmable devices and human reliability; reliability and risk management of engineering systems.
Prereq: 3260 (481), ECE 351, or ISE 4120 (510); or Grad standing; or permission of instructor. Not open to students with credit for 776.01.

6700 Musculoskeletal Biomechanics G 3

Fundamental anatomy and physiology. Mechanics of muscle, tendon, ligament, meniscus, and bone. Equations of motion for human movement. Introduction to experimental methods in musculoskeletal biomechanics.
Prereq: Grad standing in MechEng or BiomedE, or permission of instructor. Not open to students with credit for 687 or 5700.

6716 Probabilistic Reliability and Safety Assessment G 3

Methods underlying probabilistic risk assessment (PRA) and how they are used in assessing the public health risk of nuclear systems.
Prereq: 4505 (505), NuclEn 4505 (505), Grad standing, or permission of instructor. Not open to students with credit for 5716 (716) or NuclEn 5716 (716). Cross-listed in NuclEn.

7100 Introduction to Continuum Mechanics G 3

Continuum mechanics in Cartesian and general coordinates, vectors and tensors in indicial and direct notation, analysis of deformation and stress, balance principles.
Prereq: 2020 (420) or 2040, and Math 2174, 2255 (255), or 2415 (415) or equiv; or Grad standing in Engineering; or permission of instructor. Not open to students with credit for 743 and 840.

7101 Constitutive Models in Continuum Mechanics G 4

Continuum-level constitutive models are developed, starting from a mechanistic point of view. Problems involving elasticity, plasticity, visco-elasticity, & rubber elasticity are discussed.
Prereq: 7040, 7100, 740, or 743, or permission of instructor. Not open to students with credit for 847 and 864.

7163 Advanced Strength of Materials and Elasticity Theory G 4

Stress-Strain analysis of elastic solids: curved beams; non-symmetrical bending; non-circular torsion; beams on elastic foundations; load-deflection relations by energy methods; plane problems in elasticity theory; and applications to design
Prereq: 2020 (420) or 2040, or equiv, and Math 2174 or 2255 (255) or 2415 (415); or Grad standing in MechEng. Not open to students with credit for 740 or 763.

7194 Group Studies in Mechanical Engineering

G 1 - 5

Special topics in Mechanical Engineering. The particular topic, credit hours, and the instructor will be announced the term previous to the one in which the course is offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

7230 Advanced Dynamics G 4

Three-dimensional kinematics and dynamics of particles and rigid bodies using vector (Newton-Euler) and analytical (Lagrange's equations and Hamilton's principle) methods. Rotating systems. Non-holonomic systems.
Prereq: Sr or Grad standing. Not open to students with credit for 733 or 735.

7236 Powertrain Dynamics G 3

Overview of dynamics and control of automotive powertrain systems. Emphasis on subsystem interactions. Analytical and numerical methods for dynamics of gas exchange, fueling, combustion and exhaust, and mechanical engine and transmission systems.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 781.

7250 Vibration of Discrete Systems G 3

Concepts of undamped and damped vibrations of single and multi degree of freedom discrete systems. Principles of modal analysis, analytical dynamics and approximate methods.
Prereq: 4030 (430), and Math 2174, 2255 (255), or 2415 (415); or Sr or Grad standing in Engineering. Not open to students with credit for 731.

7259 Sliding Mode Control in Electromechanical Systems G 3

Sliding modes an efficient tool to control high order dynamic plants operating under uncertainty conditions.
Prereq: 5372 or ECE 5750 (750). Not open to students with credit for 859 or ECE 859 or 7859. Cross-listed in ECE 7859.

7260 Automotive Noise and Vibration Control I G 3

Integrated study of vibrations, acoustics, digital signal processing and machinery dynamics based on case study approach; examination of design, manufacturing, material, performance, and economic considerations.
Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 777 or 779.

7261 Automotive Noise and Vibration Control I with Lab G 4

Integrated study of vibrations, acoustics, digital signal processing and machinery dynamics based on case study approach; examination of design, manufacturing, material, performance, and economic considerations.
Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 777 or 779.

7262 Automotive Noise and Vibration Control II G 3

Integrated study of vibrations, acoustics, signal processing and dynamics based on case study approach; continuation of 7260 with focus on experimental and design methods.
Prereq: 7260.01 or 777, or Sr or Grad standing, or permission of instructor. Not open to students with credit for 778 or 779.

7263 Automotive Noise and Vibration Control II with Lab G 4

Integrated study of vibrations, acoustics, signal processing and dynamics based on case study approach; continuation of 7260 with focus on experimental and design methods.
Prereq: 7260 or 777, or Sr or Grad standing, or permission of instructor. Not open to students with credit for 778 or 779.

7290 Digital Control Engineering G 3

Theory of digital control engineering and its applications to the control of engineering systems including machines, vehicles, and processes.
Prereq: 3360 and 3361, or 482 and 571, or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 773.

7292 Control System Labs G 2

Hands-on experience in designing, developing, implementing, and analyzing control systems for mechanical systems.
Prereq: 5372 (672) or 674, or permission of instructor. Not open to students with credit for 772.

7374 Polymer Smart Materials and Material Systems - Advanced Modeling and Characterization G 3

Polymer smart materials and material systems with specific emphasis on mathematical modeling and characterization of ionic electroactive materials. Introduction of ionic electroactive materials as engineering materials and motivate students through various contemporary applications. Fabrication, characterization, electrochemical modeling for actuation, sensing, energy conversion and storage.
Prereq: 5374, and Grad standing in Mechanical Engineering; or permission of instructor. Not open to students with credit for 7194 (Sp 2014 or Sp 2017, Polymer Smart Materials).

7380 Lumped Parameter Modeling and System Analysis G 3

Mathematical model development and response prediction of linear lumped parameter dynamic systems. Input-output and state-space methods are used to develop insights into design, sensor placement and diagnostics, and actuator selection for control.
Prereq: Math 2174, 2415 (415), or 4512 (512), or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 780 or 880.

302 Mechanical Engineering

7383	Electrochemical Energy Conversion and Storage Systems for Automotive Applications	G	3	7761	Optimum Design of Machines and Structures	G	3
	Electrochemical energy storage (batteries) and conversion (fuel cells) systems for automotive applications covering state of the art principles of operations and modeling.			Application of optimization techniques to mechanical systems and structures. The structures considered will typically be high performance structures such as in aircraft and spacecraft			
	Prereq: 6526 (726), or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 788 or distance learning version 7383.02.			Prereq: Sr standing, or permission of instructor. Not open to students with credit for 761 or AAE 7844 (844). Cross-listed in AAE 7844.			
7384	Energy Modeling, Optimization, and Control of Hybrid Vehicles	G	3	7765	Principles and Applications of Tribology	G	3
	Fundamentals of advanced propulsion vehicles (HEV, PHEV, BEV, FCV), covering motivation, architectures, taxonomy and components, energy analysis, modeling, simulation, optimization, and supervisory control/energy management principles.			Mechanisms of friction, wear, and lubrication ranging from macro- to nanoscale that govern interfacial behavior; applications to friction and wear problems.			
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 784 or 785.			Prereq: Not open to students with credit for 765 or 767.			
7385	Advanced Methods in the Dynamics and Control of Human and Animal Movement	G	3	7837	Nanotechnology and Biomimetics	G	3
	Mathematical ideas from control theory, optimization, nonlinear dynamics, and numerical computation that will be used to understand human, animal, and movement behavior and design.			Introduction to nanotechnology, nanocharacterization techniques, nanotribology and nanomechanics of MEMS/NEMS and BioMEMS/BioNEMS materials and devices and an overview and research examples of biomimetics.			
	Prereq: 2030 (430), Math 2174, 2415 (415), 4568 (568), or 571, or Grad standing in Engineering.			Prereq: Not open to students with credit for 837.			
7440	Internal Combustion Engine Modeling	G	3	8038	Advanced Topics in Finite Element Method	G	3
	Comprehensive coverage of spark-ignited internal combustion engines modeling (fluid dynamics, thermodynamics and combustion). Additional coverage of compression ignition engine modeling and boosting.			State of the art advances in various areas of finite element methods covering a range of topics including element stability, time integration methods, and adaptive methods.			
	Prereq: 5530 or 630 or equiv, or permission of instructor. Not open to students with credit for 730.			Prereq: 7068 (768) or equiv, or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 838.			
7510	Advanced Heat Transfer	G	3	8193	Individual Studies in Mechanical Engineering	G	1 - 5
	Analytical and numerical techniques for advanced topics in conduction, convection, and radiation.			Designed to give the advanced student opportunity to pursue special studies not otherwise offered.			
	Prereq: 6505 (705), 6507 (707), or 6510 (710), or permission of instructor. Not open to students with credit for 807, 808, or 809.			Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.			
7511	Computational Fluid Dynamics	G	3	8194	Group Studies in Mechanical Engineering	G	1 - 5
	Advanced numerical methods for solving the Navier-Stokes equations using pressure-based techniques.			Special topics in Mechanical Engineering. The particular topic, credit hours, and the instructor will be announced the term previous to the one in which the course is offered.			
	Prereq: 6507 (707) or AeroEng 5615 (615), or permission of instructor. Not open to students with credit for 811.			Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
7513	Turbulence	G	3	8220	Continuous Time Optimal Control	G	3
	A study of fundamentals of turbulent fluid flows and a few canonical flows.			Embraces the three historical trends in dynamic optimization: Calculus of Variations, Pontryagin's Minimum Principle, and Bellman's Principle of Optimality. Not only mathematical aspects of the three principles will be taught, but also their strengths and weaknesses - it is often less important to know how to apply a given principle than to know when.			
	Prereq: 6505 (705), or permission of instructor. Not open to students with credit for 813 or AeroEng 7875 (875). Cross-listed in AeroEng 7875.			Prereq: 5372 or ECE 5551, or permission of instructor. Not open to students with credit for ECE 8250. Cross-listed in ECE 8250.			
7520	Wave Dynamics in Fluids	G	3	8230	Nonlinear Dynamics	G	3
	Unsteady flows, small and finite amplitude wave propagation and attenuation in fluids, flow noise, nonlinear flow-acoustic coupling, surge, and wave suppressors.			Analytical, geometric, and perturbation methods for study of nonlinear mechanical systems, and the dynamical phenomena that arise in nonlinear systems including stability, bifurcations, and hysteresis.			
	Prereq: 6505 (705), or permission of instructor. Not open to students with credit for 820.			Prereq: 7250 (731), or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 832.			
7526	Advanced Combustion	G	3	8250	Vibration of Continuous Systems	G	3
	Advanced combustion concepts; chemical kinetics; introduction to turbulent premixed and non-premixed flames; turbulent combustion modeling; multiphase combustion; literature review of recent theoretical, computational, and experimental approaches			Analysis of one, two and three dimensional continuous vibratory systems including strings, beams, membranes, plates and shells using exact and approximate methods with various boundaries.			
	Prereq: 6526 (726). Prereq or concur: 7513 (813), or permission of instructor. Not open to students with credit for 826.			Prereq: 4030 (430) or 7250 (731), and Math 2255 (255) or equiv; or permission of instructor. Not open to students with credit for 734.			
7527	Jet Propulsion	G	3	8260	Advanced Engineering Acoustics	G	3
	Characteristics and performance of air breathing flight vehicle power plants and their components (inlets, compressors, combustors, turbines, and nozzles).			Acoustic wave equations and harmonic solution; radiation, transmission, absorption and control of sound waves; structural and flow sources; computational and experimental methods; engineering approximations.			
	Prereq: 4510 (510) or AeroEng 4550 (550), or permission of instructor. Not open to students with credit for 727 or AeroEng 8851 (851).			Prereq: 5240 (666), or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 766.			
7751	Advanced Kinematics and Mechanisms	G	3	8312	Diesel Powertrain Systems Control	G	3
	Kinematic design and analysis of mechanisms. The focus is on kinematic representations of rigid transformations in space, derivation and solution of the kinematic constraint equations. Computer projects involve Solidworks and Matlab/Mathematica.			Control and estimation system designs for diesel powertrain and after treatment systems.			
	Prereq: 3671 (563) or Engr 1183, or Grad standing; or permission of instructor. Not open to students with credit for 751.			Prereq: 7236 (781), or Grad standing in Engineering, or permission of instructor.			
7752	Mechanics and Control of Robots	G	3	8322	Vehicle System Dynamics and Control	G	3
	Introduction to the mechanical and mathematical principles of robotics including kinematics, rigid body dynamics, control theory, motion planning, sensors and actuators, legged locomotion and manipulation.			Control and estimation system designs for vehicle systems.			
	Prereq: 2030 (430), Math 2174, 2415 (415), 4568 (568), 571, or equiv, or Grad standing in Engineering. Not open to students with credit for 752.			Prereq: Grad standing in Engineering, or permission of instructor.			
7760	Form Synthesis, Assembly, and Applied Stress Analysis	G	3	8372	Fault Diagnosis in Dynamic Systems	G	3
	Advanced form synthesis and assembly and applied stress analysis. Emphasis on shape synthesis for minimum weight assemblies and design of parts for optimum utilization of material and maximum ease of assembly.			Covers the theory and application of fault diagnosis in multi-domain dynamic systems. Theory and case studies drawn from industrial applications.			
	Prereq: 3671 (563), or permission of instructor. Not open to students with credit for 760 or 861.			Prereq: 7380 (780), ECE 4551, 5551, 750, AeroEng 4521, or 720, or permission of instructor. Not open to students with credit for 874.			
8503	Statistical Thermodynamics	G	3				
	Microscopic aspects of thermodynamics for engineering graduate students. Starts with kinetic gas theory and classical statistics of independent particles. Derives statistical distribution functions and thermostatic properties of real substances.						
	Prereq: Grad standing in MechEng or AeroEng, and permission of instructor. Not open to students with credit for 803.						

8504	Physical Gas Dynamics	G	3		4500	Health Promotion and Community Nutrition	U	3
	Physics of nonequilibrium, reacting, ionized gas flows. Analysis of molecular energy transfer processes, chemical reactions, and ionization processes. Applications for hypersonic reentry flows, high-speed flow control, and molecular lasers.				Study of community needs assessment, national nutrition policy, design and evaluation of programs and cultural factors to promote the health and nutritional status of the community.			
	Prereq: 8503 (803) or equiv, or permission of instructor. Not open to students with credit for 804.				Prereq: 3100.			
8514	Optical Techniques in Fluid Flows	G	3		4700	Research Design in Medical Dietetics	U	1
	Fundamentals of lasers, optics, and diatomic spectroscopy, and their application to flow and combustion diagnostics.				Concepts related to the planning, conducting, tabulating and reporting of research in dietetics.			
	Prereq: Grad standing in Engineering or the Sciences, or permission of instructor. Not open to students with credit for 814.				Prereq: Enrollment in MedDiet program.			
8518	Advanced Mathematical Methods in Mechanical Engineering	G	3		4900	Nutrition Assessment	U	3
	Fourier series, complex differentiation and integration and transform and Green's function for solution of problems arising in heat transfer, solid mechanics, fluid mechanics; asymptotic analysis.				Methods of gathering, interpreting, and reporting nutrition assessment data.			
	Prereq: 7510, 807, or 850, or equiv, or permission of instructor. Not open to students with credit for 818 or 881.				Prereq: HumnNtr 2310, EEOB 2520, or equiv.			
8527	Advanced Propulsion Problems	G	3		4910	Nut Care Process I	U	3
	Emphasizes a detailed discussion of current problems in air breathing propulsion with major emphasis on technical papers available from the current archival literature.				Nutrition care process: pathophysiology, overview of medical treatment; nutrition assessment, diagnosis, intervention: monitoring and evaluation of nutritional care for infants, children, adolescents, and adults.			
	Prereq: 7527 (727) or AeroEng 5751 (751), or permission of instructor. Not open to students with credit for 827 or AeroEng 8851 (851). Cross-listed in AeroEng 8851.				Prereq: Enrollment in MedDiet program. Concur: 4911 and 4912.			
8603	Irreversible Thermodynamics and Transport of Charge, Heat, and Spin	G	3		4911	Nutrition Care Process II	U	3
	Ohm's, Fourier and Fick's laws, which relate linearly the transport of electrical charge, heat and matter to voltages, temperatures and concentrations gradients, are generalized in the framework of irreversible thermodynamics. The microscopic mechanisms of transport of heat, electrical charge and magnetization by elemental excitations (electrons, phonons and magnons) are explained.				Nutrition care process: Principles of individual and group education and nutrition counseling as applied to responsibilities of the dietitian.			
	Prereq: 8503 or statistical mechanics, and permission of instructor.				Prereq: Enrollment in MedDiet program. Concur: 4910, 4912, or 4911.			
8702	Neuromuscular Biomechanics	G	3		4912	Nutrition Care Process III	U	2
	State-of-the-art assessment of upper and lower extremity dynamics, focusing on mechanical and neuromuscular control. Modeling and simulation of movement. Open-ended projects.				Laboratory and experiential application of the nutrition care process for disorders of body weight, musculoskeletal system, cardiovascular system; gastrointestinal tract and endocrine system.			
	Prereq: 6700 or 687, or permission of instructor. Not open to students with credit for 787.				Prereq: Enrollment in MedDiet program. Concur 4910 and 4911.			
8717	Dynamic Probabilistic Risk Assessment	G	3		4923	Nut Car Proc IV	U	3
	Review of selected papers on dynamic probabilistic risk assessment.				Nutrition care process: Pathophysiology, overview of medical treatment; nutrition assessment, diagnosis, intervention: monitoring and evaluation of nutritional care of infants, children, adolescents, and adults.			
	Prereq: 6716 (716), 6665 (776.01), or 6666 (776.02); or permission of instructor. Not open to students with credit for NuclEn 8717. Cross-listed in NuclEn.				Prereq: A grade of B or above in 4910, 4911, and 4912, and enrollment in MedDiet. Concur: 4924 and 4925.			
8777	Risk and Reliability for Digital Instrumentation and Control Systems	G	3		4924	Nutrition Care Process V	U	3
	Modeling of digital instrumentation systems used in nuclear power reactor systems for reliability, safety, risk, and, security assessment.				Nutrition care process: Principles of individual and group education and nutrition counseling as applied to responsibilities of the dietitian.			
	Prereq: 4505 (505) or NuclEn 4505 (505), or permission of instructor. Not open to students with credit for NuclEn 794J. Cross-listed in NuclEn.				Prereq: Enrollment in MedDiet. Concur: 4923 and 4925.			
8888	Mechanical Engineering Graduate Seminar	G	1		4925	Nutrition Care Process VI	U	2
	Lecture and discussion of current topics related to Mechanical Engineering presented by graduate students, staff, and guest speakers. Course does not count toward course work required for MS or PhD degrees.				Laboratory and experiential application of the nutrition care process for disorders of hepatobiliary, renal, neurological, respiratory, critical care, cancer, AIDS, and inborn errors of metabolism.			
	Prereq: Grad standing in MechEng, AeroEng, or NuclEn. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.				Prereq: Enrollment in MedDiet. Concur: 4923 and 4924.			
8998	Graduate Research in Mechanical Engineering	G	1 - 16		5189	Dietetic Professional Practice I	U G	1 - 12
	Mechanical Engineering graduate research for thesis.				Clinical experience in a specific health care system uses inpatient, outpatient, foodservice and community-based dietetic practice. The student works under the direction of Registered Dietitians and the supervision of medical dietetics faculty.			
	Repeatable. This course is graded S/U.				Prereq: Enrollment in the MedDiet program. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.			
8999	Mechanical Engineering Research for Dissertation	G	1 - 16		5289	Dietetic Professional Practice II	U G	1 - 12
	Research for dissertation purposes only.				Clinical experience in a specific health care system uses inpatient, outpatient, foodservice and community-based dietetic practice. The student works under the direction of Registered Dietitians and the supervision of medical dietetics faculty.			
	Repeatable. This course is graded S/U.				Prereq: Enrollment in MedDiet. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.			
Medical Dietetics								
1100	Careers in Dietetics	U	1		5389	Dietetic Professional Practice III	U G	1 - 12
	An introduction to the roles and responsibilities of the dietitian; the educational preparation of the dietitian and employment opportunities.				Field experience in a specific health care system uses inpatient, outpatient, foodservice and community-based dietetic practice. The student works under the direction of Registered Dietitians and the supervision of medical dietetics faculty.			
3100	Human Nutrition and Metabolism	U	3		Prereq: Enrollment in MedDiet. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.			
	Integration of principles related to foods, nutrients, physiology, and biochemistry as they apply to nutritional care for the promotion of health and prevention of disease.				5705	Nutrition and Physical Performance	U G	2
	Prereq: Chem 1210 and 1220; and Biology 1101 or 1113; and HumnNtr 2310; or equivalent coursework; or permission of instructor.				Integration of nutrition, exercise physiology, and biochemistry. Use of nutrients as fuel, interaction between nutrients and exercise performance, assessment of energy expenditure and nutritional status, interactions among diet, exercise and health.			
4200	Management in Medical Dietetics	U	3		Prereq: 4609 (610). Not open to students with credit for 705. Cross-listed in HumnNtr.			
	The study of the principles of food management systems, including food procurement, food distribution, environment management, facility design, and introductory financial controls in noncommercial foodservice segments.				5800	Advanced Nutrition Therapy in Complex Disease States	U G	3
						Study of nutrition therapy in disease: interrelationships of nutrition with biochemical, physiological and anatomical changes associated with acute, chronic and terminal illness, surgery and trauma.		
						Prereq: Credit in general chemistry, biology, physiology, nutritional assessment, nutritional therapy, or education and counseling, or permission of instructor. Not open to students with credit for 645 or 885.		
5825	Advanced Practice in Nutrition Assessment and Counseling	U G	3			In-depth analysis of the literature and current practice for use in nutrition assessment and counseling for both healthy and medically complex patients with acute, chronic and terminal illnesses.		

304 Medical Dietetics

5850	Advanced Management and Current Topics in Medical Dietetics	U G	3		5000E	Medical Laboratory Microbiology I	U G	3
	Emphasis on leadership skills for nutrition and dietetics in health care settings.				Introduce medical bacteriology in the aspects of fundamental epidemiology, disease transmission routes, clinical correlation of microbial diseases, as well as diagnostic tests to identify commonly encountered and clinically important bacteria. Honors-embedded course includes an infectious disease project.			
Prereq:	5189. Not open to students with credit for 645.				Prereq: Honors standing, Micrbio 4000, and admission to Medical Laboratory Science Program; or permission of instructor. Not open to students with credit for MedTech 500.01.			
6001	Foundations in Research & Application I	G	1		5005	Medical Laboratory Microbiology I Laboratory	U G	2
	An evidence based review of current topics in dietetics to support the integration of nutrition informatics, scientific evidence and key trends in healthcare to dietetics practice.				Basic theory and application of clinical laboratory techniques used to identify bacteria pathogenic to humans.			
Prereq:	Enrollment in MedDiet or HthRhSc graduate program. This course is graded S/U.				Prereq: 4405 and Micrbio 4000, and admission to Medical Laboratory Science Program; or permission of instructor. Concur: MedLbS: 4400. Not open to students with credit for MedTech 500.02.			
6002	Foundations in Research & Application II	G	1		5050	Medical Laboratory Hematology	U G	5
	An evidence based review of current topics in dietetics to support the integration of nutrition informatics, scientific evidence and key trends in healthcare to dietetics practice.				Theory and application of clinical laboratory procedures used to identify and evaluate the formed elements of the blood and hemostatic mechanisms in health and disease.			
Prereq:	Enrollment in MedDiet or HthRhSc graduate program. This course is graded S/U.				Prereq: Enrollment in Medical Laboratory Science program, or permission of instructor.			
6003	Foundations in Research & Application III	G	1		5050E	Medical Laboratory Hematology	U G	5
	An evidence based review of current topics in dietetics to support the integration of nutrition informatics, scientific evidence and key trends in healthcare to dietetics practice.				Theory and application of clinical laboratory procedures used to identify and evaluate the formed elements of the blood and hemostatic mechanisms in health and disease.			
Prereq:	Enrollment in MedDiet or HthRhSc graduate program. This course is graded S/U.				Prereq: Honors standing, and admission to Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 510.01.			
6100	Care and Management of Diabetes Mellitus	G	2		5055	Medical Laboratory Hematology Laboratory	U G	2
	An in depth examination of etiology, epidemiology, and pathophysiology associated with diabetes and disease complications; pharmacological and non-pharmacological treatments; insulin, physical activity and nutritional pattern management; monitoring; symptom management and steps for prevention of secondary complications. Future research and application of evidence based care will be emphasized.				Theory and application of clinical laboratory procedures used to identify and evaluate the formed elements of the blood and hemostatic mechanisms in health and disease.			
Prereq:	Biochem or equivalent; or Anatomy and Physio; or HumnNtr 2310, MedDiet 3100, HthRhSc 4530, or equivalent; and Grad standing in MedDiet, HumnNtr, or other health related program.				Concur: 4400 and 4405, and admission to Medical Laboratory Science program, or permission of instructor.			
6189	Medical Dietetics: Clinical Nutrition Practicum	G	1 - 5		5089	Clinical Practice in Medical Laboratory Science	U G	1 - 10
	This is an advanced, specialized experience to be completed in addition to- and after- all required experiences in health care systems that use inpatient, outpatient, and foodservice and community-based experiences all to achieve course objectives.				Application of medical laboratory technique under supervision in clinical laboratories or other non-hospital laboratory settings.			
Prereq:	Enrollment in the MedDiet Grad program. Not open to students with credit for 688.03. Repeatable to a maximum of 9 cr hrs or 2 completions. This course is graded S/U.				Prereq: All courses required in the Medical Laboratory Science Certification curriculum except 5600 and 5350. Repeatable to a maximum of 20 cr hrs or 4 completions. This course is graded S/U.			
6300	Evidence Based Topics in Nutrition & Dietetics	G	3		5100	Medical Laboratory Microbiology II	U G	3
	An in depth examination of the role of nutrients and food components and their impact of body systems and health.				Introduce medical mycology, parasitology, and virology in the aspects of fundamental epidemiology, disease transmission routes, clinical correlation of microbial diseases, as well as diagnostic tests to identify commonly encountered and clinically important viruses, fungi and parasites.			
Prereq:	Grad standing.				Prereq: Admission to Medical Laboratory Science Program, or permission of instructor. Not open to students with credit for MedTech 525.01.			
6350	Nutrition Support in Critical Care	G	3		5105	Medical Laboratory Microbiology II Laboratory	U G	1
	Advanced study of specialized nutrition support in critical care.				The theory and application of clinical laboratory procedures used to identify fungi, parasites, and viruses pathogenic to humans.			
Prereq:	Nutrition therapy or equiv. Not open to students with credit for 856.				Prereq: Admission to Medical Laboratory Science Program, or permission of instructor. Concur: 4400 and 4405.			
6900	Nutritional Genomics	G	3		5150	Medical Laboratory Microscopy	U G	2
	An introduction to nutritional genomics and translational medicine for the prevention and treatment of disease.				Microscopic analysis of urine and other body fluids including correlational pathophysiology.			
Prereq:	A course in basic nutrition, and 2 courses in Science, Biochemistry, or Physiology; or permission of instructor. Not open to students with credit for 745.				Prereq: Admission to Medical Laboratory Science program, or permission of instructor.			

Medical Laboratory Science

4400	Introduction to the Medical Laboratory Environment	U	1		5155	Medical Laboratory Microscopy Laboratory	U G	1
	An introduction to the basic principles and safety in the clinical laboratory environment.				Microscopic analysis of urine and other body fluids.			
Prereq:	Admission to Medical Laboratory Science program, or permission of instructor. Concur: 4405.				Prereq: MedLbS 4400, and admission to Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 570.02.			
4405	Introduction to the Medical Laboratory Environment Laboratory	U	1		5200	Medical Laboratory Immunology	U G	3
	An introduction to the practice of basic principles and safety in the clinical laboratory environment.				Theory, application, and correlation of clinical immunology knowledge and procedures used to evaluate the function of the immune system in health and disease.			
Prereq:	Admission to Medical Laboratory Science program, or permission of instructor. Concur: 4400.				Prereq: Enrollment in Medical Laboratory Science program, or permission of instructor.			
4500	Phlebotomy	U	1		5200E	Medical Laboratory Immunology	U G	3
	The principles and practice of sample collection as it relates to clinical laboratory testing.				Theory, application, and correlation of clinical immunology knowledge and procedures used to evaluate the function of the immune system in health and disease.			
Prereq:	Admission to Medical Laboratory Science program, or permission of instructor. Concur: 4505.				Prereq: Honors standing, and admission to Medical Laboratory Science program; or permission of instructor.			
4505	Phlebotomy Laboratory	U	1		5205	Medical Laboratory Immunology Laboratory	U G	1
	The practice of sample collection for the clinical laboratory.				Theory, application and correlation of clinical immunology knowledge and procedures.			
Prereq:	Admission to Medical Laboratory Science program, or permission of instructor. Concur: 4500.				Prereq: 4400, and admission to Medical Laboratory Science program; or permission of instructor.			
5000	Medical Laboratory Microbiology I	U G	3		5250	Medical Laboratory Immunohematology	U G	4
	Introduce medical bacteriology in the aspects of fundamental epidemiology, disease transmission routes, clinical correlation of microbial diseases, as well as diagnostic tests to identify commonly encountered and clinically important bacteria.				The theory and practice of blood banking and transfusion medicine.			
Prereq:	Micrbio 509, and admission to Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 500.01.				Prereq: 5000, 5050, or 5200, and Enrollment in Medical Laboratory Science program; or permission of instructor.			
5005	Medical Laboratory Microbiology I Laboratory	U G	2		5255	Medical Laboratory Immunohematology Laboratory	U G	2
	Basic theory and application of clinical laboratory techniques used to identify bacteria pathogenic to humans.				Theory and practice of blood banking and transfusion medicine.			
Prereq:	4405 and Micrbio 4000, and admission to Medical Laboratory Science program; or permission of instructor. Concur: MedLbS: 4400. Not open to students with credit for MedTech 500.02.				Prereq: 4400, 5200, and 5205, and admission to Medical Laboratory Science program; or permission of instructor.			

5300 Medical Laboratory Chemistry	U G 5	Principles in clinical chemistry with an emphasis on analysis and correlation of biochemical parameters with disease. Prereq: Chem 2510 and BioChem 4511; or BioPhrm 3311 and 3312; and enrollment in Medical Laboratory Science program; or permission of instructor.
5305 Medical Laboratory Chemistry Laboratory	U G 2	Applications of theory in quality control, method selection and evaluation, and diagnostic techniques in the clinical chemistry. Prereq: 4400; and Chem 2510 and BioChem 4511, or BioPhrm 3311; and admission to Medical Laboratory Science program; or permission of instructor.
5350 Professional Issues in Medical Laboratory Science	U G 3	Theory and application of professional, education, and management issues directed specifically towards Medical Laboratory Science. Prereq: Admission to Medical Laboratory Science program, or permission of instructor. Not open to students with credit for MedTech 620.
5400 Molecular Techniques in Medical Laboratory Science	U G 2	Theory and clinical applications of molecular techniques used in medical laboratory science. Prereq: 5000, 5050, 5100, and MolGen 4500, and admission to the Medical Laboratory Science Program; or permission of instructor. Prereq or concur: 5250 and 5300.
5405 Molecular Techniques in Medical Laboratory Science Laboratory	U G ½	Theory and clinical applications of molecular techniques used in medical laboratory science. Prereq or Concur: 5250 and 5300, and enrollment in Medical Laboratory Science Program; or permission of instructor.
5600 Interdisciplinary Studies in Medical Laboratory Science	U G 1 - 5	The application of medical laboratory science in interdisciplinary settings. Prereq: All Medical Laboratory Science certification track required courses except for MedLbS 5089. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is graded S/U.
5690 Advanced Topics in Medical Laboratory Science	U G 1 - 5	Introduction to skills and resources necessary to enhance professional development and facilitate professional goal setting. Prereq: Enrollment in Medical Laboratory Science program, or permission of instructor.
5693 Individual Studies	U G 1 - 15	Guided study or individual readings, research, or experiences related to medical laboratory science. Prereq: Admission to Medical Laboratory Science program, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.
5890 Seminar in Medical Laboratory Science	U G 1 - 5	Introduction to the skills and resources necessary to enhance professional development and facilitate professional goal setting. Prereq: Admission to Medical Laboratory Science program, or permission of instructor. Repeatable to a maximum of 5 cr hrs or 5 completions.
6885 Medical Laboratory Clinical Teaching Practicum	G 2 - 5	Supervised experience in clinical education. Prereq: Admission to Medical Laboratory Science program, or permission of instructor. Repeatable to a maximum of 5 cr hrs or 2 completions. This course is graded S/U.
6890 Medical Laboratory Graduate Seminar	G 2 - 5	Investigation of current topics in medical technology. Prereq: Admission to Medical Laboratory Science program, or permission of instructor. Repeatable to a maximum of 5 cr hrs or 2 completions. This course is graded S/U.

Medicine, College of

2000.21 Introduction to Medicine	U 2	Designed for students interested in a career in medicine, this course will provide an overview of the field (knowledge and skill requirements), information about prerequisites and applying to medical school. Recommended prereq: Soph or Jr standing. This course is graded S/U.
2022 A Day in the Life: Undergraduate Physician Shadowing	U 1	Deciding on whether medicine is the right career choice for someone interested in the health professions is challenging. This course is designed to provide a meaningful preceptorship experience with physicians in various disciplines in order to provide the student with a better understanding of the field. A better understanding of medicine is a crucial part of the application process to med school. Prereq: Soph, Jr, or Sr standing. Preference given to those who completed MedColl 2000.21. This course is graded S/U.
4126 Sexual Orientation, Gender Identity, and Health	U 3	This course is an introduction to LGBT health, including a study of demographics, the background of key healthcare disparities/inequities, and concepts of the interaction between society and health of specific populations within the LGBT community. Prereq: Soph, Jr, or Sr standing.

4660H Primary Care Across Countries	U 3	This participatory interdisciplinary seminar course will provide a broad perspective to those interested in various aspects of the delivery of primary care services. Specifically, the course will explore why access to high quality, consistent, and comprehensive primary care is central to achieving Health for All. Prereq: Honors standing, or permission of instructor.
5000 Responsible Conduct of Research & Research Ethics	U G M 1	Within research, ethics is considered to be the safeguard of both the researcher and the participant. This course will examine cases which hold to demonstrate this statement. It will analyze a complex system of policies and regulations that govern human subject research and scientific integrity. This class also satisfies the basic components of Responsible Conduct of Research (RCR) education. This course is graded S/U.
6880.01 Interprofessional Education: Seminar on Interprofessional Care	M 2	Develop and practice skills necessary for interprofessional collaboration in solving complex human problems .Case based. Limited to students enrolled in Allied Med, Edu, Law, Med, Nursing, Soc Work, Ed & Hum Eco & Theology. Prereq: Enrollment in the College of Medicine Professional MD program. Repeatable to a maximum of 4 cr hrs.
6887 Inter-departmental seminar	M 1 - 3	Inter-departmental focus on topics of Scientific Inquiry, Quality and Patient Safety, Patient Care and Evidenced Based Medicine. Prereq: Enrollment in the College of Medicine Professional MD program. This course is progress graded (S/U).
7100 Teaching and Assessing Professionalism in the Biomedical Sciences	G 3	This course is grounded in three paradigms of modern biomedical professionalism and focuses on designing teaching and assessments necessary for a developmental process that encourages the transformation from lay person to health care professional. Prereq: Acceptance into the Master of Arts in Educational Studies, Biomedical Education specialization, or permission of instructor.
7193 Individual Studies in Emergency Medicine	G 1 - 3	Research on a basic science or clinical issue in Emergency Medicine (under faculty supervision). Prereq: Permission of instructor, and good standing in the M.S. program in Medical Sciences. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.
7600 Introduction to Medicine	M 0	An introductory course describing curriculum choices and requirements, support services and security procedures for new medical students in the College of Medicine. Prereq: Enrollment in the College of Medicine, and first-semester medical student. This course is progress graded (S/U).
7670 Patient Centered Research	M 1½	Lectures and small group discussions will cover an introduction to humanistic aspects of medical research and human experimentation, including historical, socio-political, economic, and ethical aspects. Prereq: Enrollment in College of Medicine. Repeatable to a maximum of 9 cr hrs. This course is progress graded (S/U). Cross-listed in IBGP.
7680 Independent Study in Geriatrics and Aging	G 1 - 2	Opportunity for individualized study in the fields of aging, gerontology, and/or geriatrics. Allows for examination of a social, community, or organizational problem; or medical, public health, social welfare issue; etc. in the context of aging. Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.
7689 Interdisciplinary Approach to Patient Care	M 1 - 3	Collaborate with students from other health care professions including pharmacy, physical therapy, medical dietetics, nursing, and medicine. The students will use a problem-based learning approach to patient care. Prereq: Enrollment in MD program. This course is progress graded (S/U).
7690 Graduate Career Independent Study	G 1	Graduate Level independent study working closely with Dr. Klatt on Mindfulness/Resilience/Yoga scholarly projects. Prereq: Permission of instructor. This course is graded S/U.
7693 Individual Studies	M 3 - 16	Special studies in medicine; nature of life processes; foundational science; clinical science; pathophysiology and manifestation of disease. This is a supervised individualized program. Offered all semesters. Prereq: Enrollment in MD program, and permission of instructor. Repeatable to a maximum of 32 cr hrs or 2 completions. This course is progress graded (S/U).

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7694	Interprofessional Care for the Underserved Patient	G	2	2217	Shakespeare's London	U	3
A longitudinal course involving masters of social work, medicine, and pharmacy students in which teams of students will assume longitudinal care of under served patients at the Columbus Free Clinic. This course will help students develop practical competency in the interprofessional delivery of patient-centered longitudinal care, with emphasis on collaborative communication and problem solving.				The history, politics, and culture of London in the age of Shakespeare and the Tudors from the Protestant Reformation to the Great Fire (1666).			
Prereq: Enrollment in the College of medicine, pharmacy, or masters of social work. This course is graded S/U. Cross-listed in Phr.				Prereq: Not open to students with credit for Medieval 217. GE culture and ideas and diversity global studies course.			
7700.04	Interprofessional Practicum in Clinical Care: Aging	G M	2 - 3	2510	Court of Charlemagne	U	3
Students experience the breadth, scope, and importance of clinical gerontology in an interdisciplinary team setting through leadership and perspectives of academic and community health and social service providers.				Barbarian invasions, Dark Age church history, Charlemagne's campaigns to rebuild the Empire and thwart Muslim incursions, and the epics that relate it all.			
This course is graded S/U.				Prereq: Not open to students with credit for Medieval 210. GE culture and ideas and diversity global studies course.			
7710	Health Literacy	M	1 - 2	2513	Medieval Russia	U	3
Examine and analyze issues of low health literacy, including populations at risk, research, measurement tools, writing in plain language; health communication techniques; and organizational approaches.				The diversity of medieval Russian culture focused on Moscow, Novgorod, and Kiev: religion, society, politics, art, and architecture.			
Prereq: Grad standing in Health Sciences Professions, Literary Studies Specialization (ASC), Geriatrics Specialization (College of Medicine), or Teaching (College of Education & Human Ecology), or permission of faculty coordinator. This course is progress graded (S/U). Cross-listed in Pharmacy, ArtsSci, Nursing, Medicine, and AlliMed.				Prereq: Not open to students with credit for Medieval 213. GE culture and ideas and diversity global studies course.			
7711	From the Page to the Bedside: Literature for Physicians	M	1	2514	Golden Age of Islamic Civilization	U	3
Study of literary works that engage with issues of illness, treatment, and medical ethics. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.				Baghdad 786-861 A.D.: Arab, Persian and Greek contributions to Abbasid society; competing visions of correct Islamic belief; and the coexisting (often conflicting) courtly literary culture.			
Prereq: Enrollment in College of Medicine. Repeatable to a maximum of 6 completions. This course is graded S/U.				Prereq: Not open to students with credit for Medieval 214. GE culture and ideas and diversity global studies course.			
7762	Clinical Foundations I	M	0 - 22	2516	The Medieval Jewish Experience	U	3
Study of human development, biology, pathophysiology and behavior in a patient-oriented organ-system interdisciplinary manner. Developmental acquisition of the knowledge, skills and attitudes for an effective patient centered clinical encounter.				A survey of ten centuries of medieval Jewish culture from the rise of Islam to the death of Shabbetai Zvi, the false Messiah (1676).			
Prereq: Enrollment in College of Medicine. Repeatable to a maximum of 6 completions. This course is graded S/U.				Prereq: Not open to students with credit for Medieval 216, Hebrew 2216 (216), or JewshSt 2516. GE cultures and ideas and diversity global studies course. Cross-listed in Hebrew 2216 and JewshSt 2516.			
7763	Clinical Foundations II	M	2 - 20	2610	Science and Technology in Medieval and Renaissance Culture	U	3
Study of human development, biology, pathophysiology and behavior in a patient-oriented organ-system interdisciplinary manner. Developmental acquisition of the knowledge, skills and attitudes for an effective patient centered clinical encounter.				The history of science in the medieval and early modern world, including medicine, alchemy, optics, map-making, city-planning, and technology through images, texts, and material culture. GE cultures and ideas course.			
Prereq: Enrollment in College of Medicine. Repeatable to a maximum of 6 completions. This course is graded S/U.							
7790	Introduction to Applied Gerontology	G M	2	2618	Travel and Exploration	U	3
Provides a foundation for the further study of aging and development of improved aging services. Physiological, cognitive, and social dimensions of aging are considered.				Intercultural contact between Europe (Spain, Portugal, and other nations) and the 'New Worlds' is explored through early modern narratives of travel, conquest, shipwrecks, and captivity.			
Prereq: Not open to students with credit for 790. This course is graded S/U.				Prereq: Not open to students with credit for Medieval 218. GE culture and ideas and diversity global studies course.			
7795	Issues and Trends in Aging	G M	2	2666	Magic and Witchcraft in the Middle Ages and Renaissance	U	3
Study of national, state and local policy issues related to the older population. Problem-based approach is used to assess impact on current and future practices.				A study of the history of witchcraft and magic from 400 to 1700 C.E. within sociological, religious and intellectual contexts.			
Prereq: Not open to students with credit for 795. This course is graded S/U.				Prereq: Not open to students with credit for Medieval 240. GE culture and ideas and diversity global studies course.			
8664	Med 3 and 4: Clinical Medicine	M	3 - 20	2888	Holy Heroes: Saints' Lives	U	3
Didactic and clinical instruction in family medicine, internal medicine, neurology, obstetrics and gynecology, pediatrics, psychiatry, and surgery; experience in outpatient, community, and inpatient services.				Study of popular medieval narrative genre in its cultural context; development of ideals of sanctity in the lives of martyrs, confessors, holy fools, and ascetics. GE lit course.			
Prereq: 7663. Repeatable to a maximum of 12 completions. This course is progress graded (S/U).							
8764	Clinical Applications	M	3 - 20	3194	Group Studies	U	3
Foundational and clinical instruction in family medicine, internal medicine, neurology, obstetrics and gynecology, pediatrics, psychiatry, and surgery. Experiential learning in the inpatient, outpatient and community setting.				Topic varies; special subjects not covered by regular courses.			
Prereq: Enrollment in College of Medicine. Repeatable to a maximum of 6 completions. This course is graded S/U.				Repeatable to a maximum of 9 cr hrs.			
8864	Advanced Clinical Management	M	3 - 20	4193	Individual Studies	U	1 - 3
Development of the knowledge, skills, attitudes and behaviors that are required in rapid management and chronic care scenarios. Focus on team communications in life threatening situations and in coordination of care.				Students may register for individual directed study under this number for work not normally offered in courses.			
Prereq: Enrollment in College of Medicine. Repeatable to a maximum of 6 completions. This course is graded S/U.				Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			
Medieval and Renaissance Studies							
2211	Medieval Kyoto: Portraits and Landscapes	U	3	4217	Early Modern London: Urban Spaces and Popular Culture	U	3
Exploration of cultural, political and economic life in Kyoto, Japan from ca. 900-1467 with emphasis on role of imperial court and rising warrior class. Taught in English.				Students explore the literature, urban space, and popular culture of London from the start of the Protestant Reformation in the 1520s up to the Great Fire of London in 1666 through varied primary sources and recent scholarship.			
Not open to students with credit for Medieval 211. GE culture and ideas and diversity global studies course.							
2215	Gothic Paris: 1100-1300	U	3	4504	The Arthurian Legends	U	3
The arts, architecture, poetry, history, music, theology, food, and fashion of Paris in 1100-1300, the age of Gothic cathedrals and the birth of the university.				The medieval tales of King Arthur's court and the Knights of the Round Table in history, myth, literature, art, and music.			
Prereq: Not open to students with credit for Medieval 215. GE culture and ideas and diversity global studies course.				Prereq: 6 cr hrs in literature. Not open to students with credit for Medieval 504.			
4998	Undergraduate Research	U	1 - 4	4998H	Honors Research	U	1 - 4
Independent study in Medieval and Renaissance culture and civilization.				Independent study in Medieval and Renaissance culture and civilization.			
Prereq: 6 cr hrs in Medieval and Renaissance Studies at the 2000 level, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.				Prereq: Honors standing, and 6 cr hrs in Medieval and Renaissance Studies at the 2000 level, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			

Medieval and Renaissance Studies 307

4999	Research for Thesis	U	1 - 4
Independent study in Medieval and Renaissance culture and civilization.			
Prereq: 6 cr hrs in Medieval and Renaissance Studies taken at the 2000 level, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			
4999H Honors Thesis Research			
		U	1 - 4
Independent study in Medieval and Renaissance culture and civilization leading to the completion of an undergraduate thesis.			
Prereq: Honors standing, 6 cr hrs in Medieval and Renaissance Studies at the 2000 level, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			
5194	Group Studies	U G	3
Interdisciplinary group studies of selected topics in Medieval and Renaissance culture and civilization.			
Prereq: 6 cr hrs in MedRen at 2000 level or above. Repeatable to a maximum of 9 cr hrs.			
5610	Manuscript Studies	U G	3
An examination of the development of Latin book production from late antiquity to the Renaissance in the cultural context of the Middle Ages.			
Prereq: Jr, Sr, or Grad standing. Not open to students with credit for Medieval 610.			
5611	History of the Book Studies	U G	3
A study of the construction and transmission of books during the era of the hand press (c.1450-1800).			
Prereq: Jr, Sr, or Grad standing, or permission of instructor. Not open to students with credit for Medieval 611.			
5631	Survey of Latin Literature: Medieval and Renaissance	U G	3
Survey of selected authors representative of the Medieval and Renaissance periods of Latin literature with discussion of historical background and critical approaches.			
Prereq: Latin 1103, or equiv. Not open to students with credit for Medieval 631.			
5695	Advanced Seminar in Medieval and Renaissance Studies	U G	3
Interdisciplinary group studies of selected topics in Medieval and Renaissance culture and civilization, with a focus on research and writing skills. Capstone for MedRen majors.			
Prereq: 6 credit hours in MedRen at the 2000 level or above. Repeatable to a maximum of 9 cr hrs.			
7899	Medieval and Renaissance Colloquia	G	1
Graduate students completing the CMRS Graduate Certificate and GIS participate in Medieval and Renaissance lecture series events, film series, and discussions with visiting faculty.			
Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.			
8193	Individual Studies	G	1 - 3
Students may register for individual directed study under this number for work not normally offered in courses.			
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			

Microbiology

2200	Genome Biology	U	1
DNA sequencing and analysis of bacteriophage genomes. Special emphasis on mycobacteriophage as part of the Howard Hughes Medical Institute National Genomics Research Initiative.			
Prereq: Biology 1113 with participation in the Howard Hughes Medical Institute National Genomics Research Initiative, or permission of instructor. Cross-listed in Biology 2200.			
3194 Group Studies			
		U	1 - 3
Study of selected topics in microbial and cellular biology.			
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			
3300	The Biology of Pollution	U	2
A general consideration of the interactions of environmental pollutants and biological systems.			
Prereq: 3 cr hrs in Biology. Not open to students with credit for Micribiol 301.			
3704	HIV: From Microbiology to Macrohistory	U	3
This course is an interdisciplinary exploration of HIV/AIDS, tracing the evolution of the virus at both the molecular level and within its global historical context. This course is team-taught by a virologist and a historian.			
Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 3704. Cross-listed in History.			
3798.05	HIV in Context: East Africa	U	4
This course is an interdisciplinary exploration of the real world impact of- and response to HIV/AIDS.			
Prereq: English 1110.xx, or permission of instructor. Not open to students with credit for History 3798.05. GE historical study and education abroad course. Cross-listed in History.			
4000.01	Basic and Practical Microbiology	U	4
Provides an understanding of microorganisms and their interaction with the human experience.			
Prereq: 3 cr hrs in Biology. Not open to students with credit for 4000 or 4000.02. GE nat sci bio course.			

4000.02	Basic and Practical Microbiology	U	4
Provides an understanding of microorganisms and their interaction with the human experience.			
Online/in-person hybrid version of Micrbio 4000.01.			
Prereq: 3 cr hrs in Biology. Not open to students with credit for 4000 or 4000.01. GE nat sci bio course.			
4100	General Microbiology	U	5
Fundamental principles of microbiology and the characteristics of microorganisms with emphasis on their structure, molecular biology, growth, classification, physiology, ecology, biotechnology, ecology, and applied microbiology.			
Prereq: Biology 1113 or 1113H. Prereq or concur: Chem 2510.			
4110	Microbial Pathogenesis and Immunobiology	U	3
Provides an overview of microbe-host interactions with an emphasis on virulence mechanisms of bacterial pathogens, host infection routes, immune recognition of microbes, and the cellular and molecular effectors of the host immune system.			
Prereq: 4000 (509) or 4100 (520). Not open to students with credit for MicrBiol 524.01.			
4120	Microbial Physiology and Diversity	U	3
Principles of microbial growth, metabolism, microbial structure and function, and regulation of microbial metabolism.			
Prereq: 4100 (521) and prereq or concur: Biochem 4511 (511). Not open to students with credit for MicrBiol 661.			
4130	Microbial Genetics	U	3
Structure, maintenance, expression, and exchange of genetic materials in microbial cells.			
Prereq: 4100, MolGen 4500, or 4606.			
4140	Molecular Microbiology Laboratory	U	3
Advanced laboratory covering structure, maintenance, expression and exchange of genetic materials in microbial cells and methods in immunobiology.			
Prereq or concur: Micrbio 4130 (Micribiol 581.01). Not open to students with credit for MicrBiol 581.02.			
4150	Immunobiology Laboratory	U	3
This course will provide an introduction to the experimental approaches and laboratory methods commonly used in Immunology research. Topic areas include the purification, characterization and applications of antibodies, the characterization and responses of cells and organs of the immune system, and cell culture techniques for the use of eukaryotic cells in immunology research.			
Prereq: 4110, or 5122, or permission of the Instructor.			
4193	Individual Studies	U	1 - 3
Study of selected topics in microbial and cellular biology. Outlined by instructor to meet individual student's needs.			
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			
4194	Group Studies	U	1 - 3
Study of selected topics in microbial and cellular biology.			
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			
4591S	DNA Finger Printing Workshops	U	1
A service learning course whereby undergraduates mentor high school students in molecular biology workshops. Undergraduates present workshops in Columbus Public Schools.			
Sp Sem. Prereq: MolGen 4500 (500) or 4606 (606). Repeatable to a maximum of 3 cr hrs. This course is graded S/U. Cross-listed in MolGen and Biochem.			
4797	Study at a Foreign Institution	U	1 - 18
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.			
Prereq: Permission of department. Repeatable to a maximum of 36 cr hrs or 2 completions. This course is progress graded (S/U).			
4798.01	Study Tour at a Domestic Institution	U	1 - 18
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.			
Prereq: Permission of department. Repeatable to a maximum of 36 cr hrs or 2 completions. This course is progress graded (S/U).			
4798.02	Study Tour at a Foreign Institution	U	1 - 18
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.			
Prereq: Permission of department. Repeatable to a maximum of 36 cr hrs or 2 completions. This course is progress graded (S/U).			
4998	Undergraduate Research in Microbiology	U	1 - 5
Laboratory and bioinformatics based research in all areas of microbiology.			
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 8 completions. This course is graded S/U.			
4998H	Honors Research in Microbiology	U	1 - 5
Laboratory and bioinformatics based research in all areas of microbiology.			
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 8 completions. This course is graded S/U.			

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4999 Undergraduate Research in Microbiology-Thesis	U	1 - 5	6080 Advanced Microbial Genetics	G	3			
Laboratory and bioinformatics based research in all areas of microbiology. Thesis. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U.								
4999H Honors Research in Microbiology-Thesis	U	1 - 5	6789 Research Principles and Techniques in Microbiology	G	1 - 8			
Laboratory and bioinformatics based research culminating in an Honors thesis. Prereq: Honors standing, and Jr or Sr standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U.								
5122 Immunology	U G	2	7010 Cellular and Molecular Immunology	G	3			
Cellular and molecular properties of the immune system. Prereq: 4000 (509) or 4100 (520). Not open to students with credit for MicrBio 522.01.								
5129 Cellular and Molecular Biology of Pathogenic Eukaryotes	U G	3	Cellular and molecular mechanisms of immune response, cell recognition and communication, molecular biology of cell recognition structures, cytokines, and effector mechanisms. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 701 or MVIMG 7010 (701). Cross-listed in MVIMG.					
Cellular biology and molecular aspects of parasitism. Prereq: 4100, or permission of instructor. Not open to students with credit for MicrBio 629.								
5147 Eukaryotic Pathogens	U G	3	7020 Physiology Meets Pathogenesis	G	2			
Presentations will cover the medically important fungal and parasite pathogens and the virulence mechanisms employed at the host-pathogen interaction to overcome host defenses. Current and potential therapeutic strategies will also be discussed. Prereq: 4100 (520), or permission of instructor. Not open to students with credit for MicrBio 647.								
5149 Introductory Virology	U G	3	The physiological basis for growth and virulence of microbes in the host. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 702.					
Basic principles of virology with discussion of structures; virus-host cell interactions, detection, production, and control; animal bacterial, insect, and plant viruses used as examples. Prereq: 4100 (520). Not open to students with credit for MicrBio 649.								
5155 Environmental Microbiology	U G	3	7060 Advanced Topics in Molecular Microbiology	G	2			
The role of microorganisms and underlying biological principles in elemental cycles and degradation of natural and man-made compounds. Prereq: MicrBio 4000 (MicrBio 509) or 4100 (520). Not open to students with credit for 665.								
5160 Geomicrobiology	U G	3	Specialized metabolic pathways, regulation and control mechanisms, and bacterial biochemistry. Prereq: 6020, or permission of instructor. Not open to students with credit for 760.					
The role of microorganisms in shaping our environment through mineralogical and geochemical processes at both local and global scales, in the present day and over geologic time periods. Prereq: Sr or Grad standing in School of Earth Sciences, Department of Microbiology, Department of Civil, Environmental, and Geodetic Engineering, or School of Environment and Natural Resources. Not open to students with credit for EarthSc 5160. Cross-listed in EarthSc.								
5161H Bioinformatics and Molecular Microbiology	U G	3	7070 Antibiotics	G	3			
Application of computational tools to the analysis of microbial genomes and their gene products. Prereq: Honors standing, and MicrBio 4130 (MicrBio 581.01) or MolGen 4500 (500), and BioChem 4511 (511); or permission of instructor. Not open to students with credit for MicrBio 610H.								
5169 Microbial Evolution	U G	3	This is a literature-based course using a combination of faculty lectures and student-led discussions. This course will introduce students to the major classes of antibiotics, their modes of action, and the various resistance mechanisms that counteract their inhibitory activities. Prereq: Grad standing; or permission of instructor, and approved petition by Grad School.					
Evolution and evolutionary ecology of bacteria, viruses, and other microorganisms: mutation, selection, gene exchange, macroevolution, social interactions, coevolution, endosymbioses, emerging virulence, and increasing complexity. Prereq: 6 cr hrs in Biology, or permission of instructor. Not open to students with credit for 5169H (MicrBio 669H).								
5536 Food Microbiology Lecture	U G	3	7193 Individual Studies	G	1 - 5			
Microorganisms in relation to the production, processing, and handling of food with emphasis on food transmitted pathogens and minimizing public health risks. Prereq: 4000 (509), 4100 (520), or permission of instructor. Not open to students with credit for MicrBio 636.01 or FDSCTE 636.01. Cross-listed in FDSCTE 5536.								
5546 Food Microbiology Laboratory	U G	3	Enrollment in non-thesis master's program and written permission of instructor. Not open to thesis MS candidates or PhD candidates. Outlined by instructor to meet individual student's needs. Prereq: Permission of instructor. Not open to Plan A thesis MS or PhD candidates. Repeatable to a maximum of 30 cr hrs or 6 completions. This course is graded S/U.					
Laboratory training for determining the microbiological safety and quality of food with emphasis on handling pathogens and observing analyst's safety. Prereq: 5536 (636.01) or FdScTe 5536 (636.01). Not open to students with credit for 636.02 or FdScTe 636.02. Cross-listed in FdScTe 5546.								
5800 Organelle Biology	U G	2	7536 Advanced Food Microbiology I	G	2			
Structure and function of plastids and mitochondria, apicoplasts and hydrogenosomes. Prereq: MolGen 4500 (500), 4500E, or 4606 (606), or permission of instructor. Cross-listed in MolGen.			Food borne microbes of significance to health and industrial applications, metabolic pathways enabling these organisms survival in the environment and hosts, approaches for studying food-borne microorganisms. Prereq: 5536 (MicrBio 636.01) or FdScTe 5536 (636.01), and MicrBio 4100 (MicrBio 520); or permission of instructor. Not open to students with credit for MicrBio 736 or FdScTe 7536 (736). Cross-listed in FdScTe.					
6010 Principles of Microbiology	G	2	7600 First Year Student Orientation	G	1			
Principles of Microbiology: research practices, conduct and expectations for graduate students, and an introduction to microbiology through landmark papers in the field. Prereq: Grad standing, or permission of instructor.			Orientation for first-year students in Microbiology and partner graduate programs; lectures on topics important for successful graduate experience; training in presenting scientific work; training in research ethics. Prereq: Not open to students with credit for OSBP 7600 (760), MCDBio 7600, MolGen 7600, or Biophys 7600. This course is graded S/U. Cross-listed in Biophys, MCDBio, MolGen, and OSBP.					
6020 Microbial Physiology and Biochemistry	G	3	7724 Molecular Pathogenesis	G	3			
Principles of microbial growth, metabolism, microbial structure and function, regulation of microbial metabolism and an introduction to the diversity of microorganisms. Prereq: Grad standing, or permission of instructor. Not open to students with credit for MicrBio 661 or 720.			In-depth presentation and discussion of the molecular and cellular mechanisms of pathogenesis, emphasizing current research in the field. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 724 or IBGP 7240 (724). Cross-listed in IBGP 7240.					
7899 Microbiology Colloquium	G	1	7998 Research in Microbiology	G	1 - 8			
Microbiology Colloquium. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.			Research in microbiology for graduate students prior to completing the Candidacy Examination. Prereq: Permission of instructor. Not open to students who have passed the Candidacy Examination. Repeatable to a maximum of 60 cr hrs or 12 completions. This course is graded S/U.					
7999 Research in Microbiology MS Thesis	G	1 - 8	8050 The RNA World	G	2			
Research in Microbiology toward completion of a MS thesis. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 3 completions. This course is graded S/U.			Evolution, structure and function of RNA with topics including RNA catalysis, RNA editing and modification, ribosomes, ribozymes, tRNA, telomerase, tmRNA, and alternative translation strategies. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 850.					

8193	Individual Studies	G	1 - 5
Selected topics in microbiology outlined by instructor to meet individual student's needs.			
	Prereq: Permission of instructor. Not open to MS candidates. Repeatable to a maximum of 30 cr hrs or 6 completions. This course is graded S/U.		
8194	Group Studies	G	1 - 5
Group work on special topics in microbial or cellular biology.			
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.		
8899	Seminar in Microbiology	G	1
Seminar in Microbiology.			
	Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.		
8999	Research in Microbiology	G	1 - 8
Research for doctoral dissertation only.			
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.		

Military Science

1100.01	Boot Camp Style Physical Fitness Training	U	1
Introduction to U.S. Army "Boot Camp" style physical fitness training. Teamwork and motivation combine with U.S. Army instructors to generate tough, non-nonsense, non-stop mental and physical training.			
	Au, Sp Sems. Prereq: Students must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
1100.02	Basic Mountaineering Course	U	1
Training in the fundamental knowledge and skills required to successfully conduct basic U.S. Army mountaineering and rappelling. Students must sign waivers provided by the OSU Area Recreation Center (ARC) and the U.S. Army Cadet Command.			
	Au, Sp Sems. Prereq: Students must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, students must sign waivers provided by the OSU Area Recreation Center (ARC) and the U.S. Army Cadet Command. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
1101	Introduction to the Army and Critical Thinking	U	1
Introduction to the personal challenges and competencies that are critical for effective leadership. Students learn how developing time and stress management skills, and physical fitness relate to leadership and the Army Profession. No military obligation is required. This course is open to all OSU students.			
	Prereq: All Cadets enrolled in a Military Science course must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: marching, laboratory, and field training exercises.		
1102	Introduction to the Profession of Arms	U	1
The organization and branches of the Army, basic military skills, and fundamentals of leadership. Students explore dimensions of leadership values, attributes, skills, and actions in the context of Squad level tactics. No military obligation is required. This course is open to all OSU students.			
	Prereq: All Cadets enrolled in a Military Science course must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: marching, laboratory, and field training.		
2001	Leadership and Decision Making	U	2
This course is designed to develop individual leadership skills and inspire self-confidence through experiential learning activities, using critical reasoning and problem solving skills, while applying communication and conflict resolution skills.			
	Prereq: All Cadets enrolled in Military Science courses must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: physical fitness training, laboratory, and field exercise training.		
2002	Army Doctrine and Team Development	U	2
The course places emphasis on teamwork in developing effective leadership skills, self-confidence, critical reasoning, problem solving skills, and applying communication and conflict resolution skills during training exercises.			
	Sp Sem. Prereq: All students are eligible for the lecture portion of Military Science courses, however, students who wish to participate in any Army ROTC physical activity including: physical fitness training, laboratory, and field training exercise, must have a physician complete a Department of the Army Form 345-R, Medical Fitness Statement prior to participating in the physically demanding portions.		
3001	Training Management and the Warfighting Functions	U	3
This is an academically challenging course where students will study, practice, and apply the fundamentals of Army leadership, Officership, Army values and ethics, personal development, and small unit tactics at the team and squad level.			
	Prereq: Permission of department chairperson or instructor. This is the first course for the junior and senior level Army ROTC program that leads to a commission as a Second Lieutenant in the U.S. Army. Students pursuing a minor only in Military Science must meet with the Admissions and Scholarship Officer for approval of the Military Science only program.		

3002	Applied Leadership in Small Unit Operations	U	3
Emphasis on leadership, planning, coordinating, navigating, motivating and leading a team or squad in execution of a tactical mission during a classroom Practical Exercise, a Leadership Lab, or a Situational Training Exercise in a field environment.			
	Prereq: 3001, or permission of instructor. All Cadets enrolled in Military Science course must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: marching, laboratory, and field exercise training.		
4001	The Army Officer	U	3
Practical application of adaptive leadership that transitions the focus of student learning from being trained, mentored and evaluated as an MS III Cadet to learning how to train, mentor and evaluate underclass Cadets.			
	Prereq: 3002, or permission of chairman. All Cadets enrolled in a Military Science course must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: physical training, laboratory and field training exercises.		
4002	Company Grade Leadership	U	3
Exploration of the dynamics of leading in the complex situations of current military operations. Students will examine the differences in customs, military law, principles of war, and rules of engagement in the face of international terrorism.			
	Prereq: 4001, or permission of chairman. All Cadets enrolled in a Military Science course must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: physical training, laboratory and field training exercises.		
4193.01	Military Science Individual Studies	U	1
This course is for Army ROTC Scholarship Cadets who have completed all Military Science courses required for commissioning but who still need to enroll in other university courses for graduation. Cadets must confirm with the department Scholarships and Admissions Officer that they are designated as an MS 5 Cadet and will continue to receive their Army Scholarship. Prereq: 4002, and permission of instructor. Not open to students with credit for 4193. This course is graded S/U.			
	4193.02	Cadet Advance Camp	U 1
This is a one credit-hour course to prepare Cadets for Cadet Advance Camp. Course is not repeatable.			
	Prereq or concr: 3001.		
4193.03	Review of Army Literature	U	1
Cadets will study a topic based on the recommended reading list from U.S. Army Cadet Command. Cadets also have the option of choosing an article from a recent journal of The US Army War College Quarterly-Parameters. The journal can be downloaded from the web. Selected readings from Cadet Command or Parameters must be reviewed with the instructor. A term paper is due the week of ROTC Final exams.			
	Prereq: 4002, and permission of instructor. This course is graded S/U.		

Modern Greek

1101	Elementary Modern Greek	U	5
Introduces students to the language, covering the basic skills of reading, understanding and writing (Autumn semester). Not open to native speakers, or to students with 3 or more years of study in high school, except by permission of instructor.			
	Prereq: Not open to students with credit for 102. This course is available for EM credit. GE for lang course.		
1102	Intermediate Modern Greek I	U	5
Offers intensive study of grammar and syntax, with extensive oral and written practice (Spring semester). Not open to native speakers of this language through regular course enrollment or EM credit.			
	Prereq: 1101. Not open to students with credit for 103. This course is available for EM credit. GE for lang course.		
1103	Intermediate Modern Greek II	U	3
Continues the 1101-1102 sequence. The course helps students expand their vocabulary and improve their fluency in speaking the language (Autumn only). Not open to native speakers of this language through regular course enrollment or EM credit.			
	Prereq: 1102. Not open to students with credit for 104. This course is available for EM credit. GE for lang course.		
2000	Athens: The Modern City	U	3
The history and culture of modern Athens. The way events such as wars and migration transformed the urban fabric of the city.			
	Prereq: Not open to students with credit for 200. GE cultures and ideas and diversity global studies course.		
2100	Greece and Beyond: The Crossing of Borders Through Film	U	3
Examines cross-cultural encounters between the Greeks and other peoples as depicted in film. GE culture and ideas and diversity global studies course.			
	2193	Individual Studies	U 1 - 3
Individual studies.			
	Prereq: 1003 or equiv, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.		

310 Modern Greek

2194	Group Studies	U	1 - 3	
	Topics in Modern Greek studies.			
	Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions.			
2240	Travels to Greece: The Search for a Cultural Ideal	U	3	
	Starting in antiquity and ending in today's mass tourism and global migration, the course will introduce students to the phenomenon of travels to Greece. It will examine the reasons people have gone to Greece over the ages and why they have turned Greece into travel ideal. GE cultures and ideas course.			
2240H	Travels to Greece: The Search for a Cultural Ideal	U	3	
	Considers the phenomenon of travel to Greece through the centuries. GE cultures and ideas course.			
2367	Reading and Writing About Issues in Greek-American Society and Culture	U	3	
	Exploration of representative features of Greek-American culture and reflection on the social diversity in the United States.			
	Prereq: English 110, 111 or equiv. Soph standing. Not open to students with credit for 367. GE writing and comm course: level 2 and diversity soc div in the US course.			
2410	Culture of Contemporary Greece	U	3	
	A general survey of socio-cultural trends and issues in modern Greece through close analysis of literature and the other arts.			
	Prereq: Not open to students with credit for 241. GE cultures and ideas and diversity global studies course.			
2680	Folklore of Contemporary Greece	U	3	
	A general survey of socio-cultural trends and issues in modern Greece through close examination of ethnographies and other folk expressions.			
	Prereq: Not open to students with credit for 268. GE VPA and diversity global studies course.			
3570	CLLC Radio	U	3	
	Student partners prepare 3 target language broadcasts, each 1 hour in length. Broadcasts stream live over the Internet, then become podcast for public use. Student "DJs" conduct target language research on radio broadcast history and at least 15 thematic topics and related music that interests them. Students choose their music and content with approval and guidelines, then produce scripts.			
	Prereq: Permission of instructor.			
3710	Modern Greek Literature in Translation	U	3	
	Review of the Modern Greek literary tradition of the last two centuries through representative works and from a theoretical perspective.			
	Prereq: Jr or Sr standing. Not open to students with credit for 371. GE lit and diversity global studies course.			
4001	Advanced Modern Greek I	U	3	
	Introduces journalism, literary prose, and media. Students practice discussion and composition.			
	Prereq: 1103. Not open to students with credit for 401.			
4002	Advanced Modern Greek II	U	3	
	Completes the language sequence. Students develop translation skills and continue practicing conversation and composition.			
	Prereq: 4001. Not open to students with credit for 402.			
4998	Research	U	1 - 3	
	A program of study arranged for each student.			
	Prereq: Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			
4998H	Honors Research	U	1 - 3	
	A program of study arranged for each student.			
	Prereq: Honors standing, and Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			
4999	Thesis Research	U	1 - 6	
	A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in Modern Greek.			
	Prereq: Jr standing or above, and enrollment in Modern Greek Major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.			
4999H	Honors Thesis Research	U	1 - 6	
	A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in Modern Greek.			
	Prereq: Honors standing, Jr standing or above, and enrollment in Modern Greek Major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.			
5000	Modern Greek Language and Literature	U G	3	
	Literary texts illustrating Greek culture are the basis for discussion and exercises in vocabulary expansion, grammar, syntax, prose composition, and aural comprehension.			
	Au, Sp Sems. Prereq: 4002 (402), or grad standing; or permission of instructor.			
5010	Advanced Studies in Modern Greek Language and Culture	U G	1 - 3	
	Sequel to 4002, giving students the opportunity to continue their studies on an individual and group basis in a structured way with the ultimate goal of achieving bilingualism in speaking, understanding, reading, and writing.			
	Prereq: 4002 with a grade of B or above, and permission of instructor or department chair. Repeatable to a maximum of 27 cr hrs or 9 completions.			
5193	Individual Studies	U G	1 - 3	
	Individual studies.			
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
5194	Group Studies	U G	1 - 3	
	Group studies.			
	Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.			
5797	Study at a Foreign Institution	U G	1 - 9	
	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.			
	Prereq: Permission of dept chairperson. Repeatable to a maximum of 27 cr hrs or 27 completions. This course is progress graded.			
8110	Seminar	G	3	
	Advanced study of specific topic, involving extensive reading and discussion of appropriate primary and secondary source materials.			
	Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.			
8999	Dissertation Research in Modern Greek	G	1 - 3	
	Research for dissertation purposes only.			
	Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			
	Molecular Genetics			
2220H	Introduction to Molecular Life Sciences: Research Opportunities and Career Options	U	1	
	Faculty presentations and facility tours to introduce first- and second- year students to research opportunities in molecular life sciences.			
	Prereq: Honors standing, and Biology 1101 (101), 1113 (113), or 1113H (115H), and 3 additional cr hrs in Biological Sciences; or permission of instructor. Not open to students with credit for 220H.			
3300	General Plant Biology	U	3	
	Plant structure and function; growth and development; diversity, reproduction, and evolution of lower and flowering plants; people, the biosphere, and plant diversity.			
	Prereq: Biology 1101 (101), 1113 (113), or 1113H (115H). Not open to students with credit for PlntBio 300 or HCS 300. GE nat sci bio course.			
3436	Introductory Plant Physiology	U	3	
	Topics in plant physiology at the introductory level: diffusion, transpiration, water stress, translocation, photosynthesis, plant growth hormones, tropisms, flowering, and fruit development.			
	Prereq: Biology 1113 (133), 1113H (115H), 1114 (114), 1114H (116H), and 6 cr hrs in Chem. Not open to students with credit for PlntBio 436, 630 or 631.			
4500	General Genetics	U	3	
	The principles of genetics, including molecular genetics, transmission genetics of prokaryotes and eukaryotes, developmental and non-chromosomal genetics, recombinant DNA and genomics, and the genetics and evolution of populations.			
	Prereq: Biology 1101 (101), 1113 (113), or 1113H (115H), and 3 additional sem cr hrs in Biological Sciences. Not open to students with credit for 4606, 500, 500H, 605, or 606.			
4500E	General Genetics	U	4	
	The principles of genetics, including molecular genetics, transmission genetics of prokaryotes and eukaryotes, developmental and non-chromosomal genetics, recombinant DNA and genomics, and the genetics and evolution of populations.			
	Prereq: Biology 1101 (101), 1113 (113), or 1113H (115H), and 3 additional cr hrs in the Biological Sciences. Not open to students with credit for MolGen 4606 (605 and 606), 500, or 500H.			
4501	General Genetics Laboratory	U	1	
	MolGen 4501 Laboratory complements the MolGen 4500 lecture course. It provides a laboratory experiences in a wide range of molecular genetic laboratory techniques and approaches, and utilization of relevant genetic model systems.			
	Prereq or concr: 4500 or 4500E, or permission of instructor. Not open to students with credit for 5601 (601) or 5602 (602).			
4502	Expanded General Genetics Laboratory	U	2	
	Complements MolGen 4500. In-depth laboratory experiences in a wide range of molecular genetic laboratory techniques and approaches, and utilization of relevant genetic model systems.			
	Prereq or concr: 4500 or 4500E, or permission of instructor. Not open for students with credit for 4501, 5601 (601), or 5602 (602).			

4503 Molecular Genetics Writing Project

U 1

Practice in searching, reading, and analyzing literature in molecular genetics, and in written and oral presentation.

Prereq: 4500 (500), 4606, or 605. Not open to students with credit for 503.

4591S DNA Fingerprinting Workshops in Columbus Public Schools

U 1

A service learning course whereby undergraduates mentor high school students in molecular biology workshops.

Prereq: MolGen 4500 (500) or 4606 (606). Repeatable to a maximum of 3 cr hrs. This course is graded S/U. Cross-listed in Biochem and MicrBio.

4606 Molecular Genetics

U 4

A comprehensive genetics course for majors covering transmission and molecular genetics; DNA replication, repair and mutation; transcription and translation; analysis and manipulation of genes at the molecular level.

Prereq: Biology 1113 (113), 1113H (115H), 1114 (114), 1114H (116H), or Chem 1210 (121) or equiv, or permission of instructor. Not open to students with credit for 605 or 606; or 4500 (500) unless waived by instructor.

4700 Molecular Cell and Developmental Biology

U 3

A genetics-based introduction to the structure and function of cells and the early development of invertebrates and vertebrates, with a special focus on the molecular mechanisms underpinning cellular biology and development.

Prereq: 4500 or 4606, or permission of instructor. Not open to students with grades of C- or above in 5607 and 5608, except with permission of instructor/major advisor.

4703 Human Genetics

U 2

This course covers principles of human genetics, including mapping and identification of disease genes, animal models, genetic testing and gene therapy, with a focus on reading the primary scientific literature.

Prereq: Completion of 4500 (500) or 4606 (606) with a minimum grade of C-; or instructor permission. Not open to students with credit for 5733.

4998 Undergraduate Research in Molecular Genetics

U 1 - 5

Undergraduate research in molecular genetics.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 8 completions. This course is graded S/U.

4998H Undergraduate Research in Molecular Genetics

U 1 - 5

Undergraduate research in molecular genetics.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 8 completions. This course is graded S/U.

4999 Thesis Research in Molecular Genetics

U 1 - 5

A program of reading and research leading to a senior thesis.

Prereq: Sr standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U.

4999H Thesis Research in Molecular Genetics

U 1 - 5

A program of reading and research leading to a senior honors thesis.

Prereq: Honors standing, and Sr standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U.

5193 Individual Studies

U G 1 - 3

Problem may be selected in the fields of molecular genetics, genomics, cell biology, developmental biology and plant sciences.

Prereq: at least 10 credit hours in biological sciences and permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

5194 Group Studies

U G 1 - 3

Group study of special topics in the fields of molecular genetics, genomics, cell biology, developmental biology, and plant sciences.

Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

5300 Cancer Genetics

U G 2

Students will learn about the genetic evolution of human cancer. Specifically, the hallmarks of cellular transformation and tumor progression will be discussed. Students will be introduced to modern approaches aimed at targeting genetic aberrations in cancer cells. Includes hands-on training in the use of online databases of cancer genetics.

Prereq: C- or better in 4606 or 4500; or Grad standing.

5601 Eukaryotic Molecular Genetics Lab

U G 3 - 4

Current laboratory techniques used in the genetic, cellular, and molecular analyses of yeast, Drosophila, and other model systems.

Prereq: 4500 (505) or 4606 (606), and Biochem 4511 (511) or equiv, or permission of instructor. Not open to students with credit for 601.

5602 Eukaryotic Cell and Developmental Biology Laboratory

U G 3 - 4

Laboratory course emphasizing techniques and methods central to cell and developmental biology of eukaryotes.

Prereq: 4500 (500) or 4606 (606), and Biochem 4511 (511) or equiv; or permission of instructor. Not open to students with credit for 602.

5607 Cell Biology

U G 3

Analysis of the structure and function of animal and plant cells and their components, stressing molecular genetic and biochemical approaches.

Prereq: 4500 (500), 4500E, or 4606 (606). Not open to students with credit for 607, 607H, 5607E.

5607E Cell Biology

U G 4

Analysis of the structure and function of animal and plant cells and their components, stressing molecular genetic and biochemical approaches. Embedded Honors includes a recitation that explores cell biology topics from the primary literature.

Prereq: 4500 (500) or 4606 (606). Not open to students with credit for 5607 (607) or 5607H (607H).

5608 Genes and Development

U G 3

Analysis of animal and plant development using modern genetic approaches.

Prereq: 4500 (500), 4500E, or 4606 (606). Not open to students with credit for 5608E or 608.

5608E Genes and Development

U G 4

Analysis of animal and plant development using modern genetic approaches. Honors

Embedded includes a faculty led recitation that explores developmental biology topics from the primary literature.

Prereq: Honors standing, and 4500 (500) or 4606 (606); or permission of instructor. Not open to students with credit for 4608 (608).

5623 Genetics and Genomics

U G 2

A survey and discussion of genomic studies applied to fungal, animal, or plants systems.

Prereq: 4500 (500), 4606 (606), 5607 (607), or 5608 (608); or Grad standing. Not open to students with credit for PIntBio 623.

5630 Plant Physiology

U G 3

Advanced study of plant physiology; regulation of plant growth and development, hormones, and stress physiology.

Prereq: 3300, 4500 (500), 4606 (606), PIntBio 300, HCS 300, Biology 1114 (114), 1114H (116H), or permission of instructor. Not open to students with credit for PIntBio 630 or 631.

5632 Insect Molecular Genetics

U G 2

Structure, genetics, and methodology of insect genes and genomes.

Prereq: 4500 (500) or 4606 (606). Not open to students with credit for 632 or Entomol 632.

5643 Plant Anatomy

U G 3

The structure, function, and development of cells, tissues, and organs of vascular plants.

Prereq: 3300, Biology 1114 (114), 1114H (116H), or PIntBio 300, and 10 cr hrs in Life Sciences; or permission of instructor. Not open to students with credit for PIntBio 643

5645 Quantitative, Population, and Evolutionary Genetics

U G 2

The genetics of populations, including quantitative, population, and evolutionary genetics.

Prereq: 4500 (500) or 4606 (606). Not open to students with credit for 640 or EEOB 640.

5650 Analysis and Interpretation of Biological Data

U G 3

Methods of analyzing biological data including: sampling, descriptive statistics, distributions, analysis of variance, inference, regression, and correlation. Emphasizes practical applications of statistics in the biological sciences.

Prereq: Math 1149 or 1150 (150) or equiv, and 10 semester cr hrs at the 3000-level (or 300 level in the quarter system) or above in Agricultural or Biological Sciences. Not open to students with credit for 650.

5660 Integrated Molecular and Cellular Biology for Non-Biologists

U G 5

Overview of molecular and cellular biology of single cells, tissues, organisms and their interactions, including genetics and biochemistry of single cells.

Prereq: Biology 1101 (101) or equiv, or permission of instructor. Not open to students with credit for 4500 (500), 4606 (606), 605, 660, 661, or Math 5660. Cross-listed in Math.

5700 Systems of Genetic Analysis

U G 3

Analysis of select fungal, invertebrate, vertebrate, and plant model systems used in modern experimental genetics.

Prereq: 4500 (500), 4606 (606), 5607 (607), or 5608 (608), or Grad standing, or permission of instructor. Not open to students with credit for 700.

5701 DNA Transactions and Gene Regulation

U G 3

Understanding mechanisms of DNA replication, DNA repair and recombination, transcription, translation, regulation of gene expression, and the experimental approaches to these topics.

Prereq: 4500, 4606 (606), Biochem 4511, or equiv., and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for Biochem 5701. Cross-listed in

5705 Advances in Cell Biology

U G 2

An advanced study of selected key areas of research in eukaryotic cell biology.

Prereq: A grade of B- or above in 5607, or Grad standing, or permission of instructor.

5715 Developmental Genetics

U G 2

An advanced study of the regulation of developmentally significant genes and cellular

interactions involved in differentiation and pattern formation in invertebrate, vertebrate, and plant model organisms.

Prereq: A grade of B- or above in 5608, or Grad standing, or permission of instructor.

312 Molecular Genetics

5733 Advanced Human Genetics

U G 2

The principles of human genetics, mapping of disease genes, defects causing human disease, the cloning of disease genes, exon and genome sequencing for disease gene identification, complex traits, gene therapies, transgenes, and specific pathological disorders, development of treatments for genetic disorders.

Prereq: 4500 (500), 4606 (606) or equivalent with a grade of C- or better, and sr standing; or graduate standing; or permission of instructor. Not open to students with credit for 733, MolBioC 5733 (733), or Pathol 5733 (733). Cross-listed in MolBioC and Pathol.

5735 Plant Biochemistry

U G 3

Focus on biochemical processes unique to plants, including photosynthesis, respiration, carbon fixation and carbohydrate metabolic networks, cell wall and lipid synthesis, and nitrogen and sulfur assimilation for macromolecular synthesis.

Prereq: Biochem 4511 (511), or equiv. Not open to students with credit for PlntBio 735 or 736. Cross-listed in Biochem.

5795 Special Topics in Molecular Genetics

U G 1 - 3

Lecture/discussion in a seminar format of publications, current research, or research techniques in the areas of cell biology, development, genetics, genomics, molecular biology, or plant biology.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

5796 Current Topics in Signal Transduction

U G 1 - 2

A discussion of signal transduction mechanisms in animal, fungal, and plant systems.

Prereq: 5607 (607), 5608 (608), 5607E, 5608E, 607H, BioChem 4511 (511) or equiv, or Grad standing, or permission of instructor. Not open to students with credit for PlntBio 796.

5797 Study at a Foreign Institution

U G 1 - 15

Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.

5798 Study Tour: Domestic

U G 1 - 15

Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions. This course is graded S/U.

5800 Organelle Biology

U G 2

Structure and function of plastids and mitochondria, apicoplasts and hydrogenosomes.

Prereq: 4500 (500), 4500E, or 4606 (606), or permission of instructor. Cross-listed in Microb.

7600 First-Year Student Orientation

G 1

Orientation for first-year students in Molecular Genetics and partner graduate programs; lectures on topics important for successful graduate experience; training in presenting scientific work; training in research ethics.

Prereq: Not open to students with credit for OSBP 7600 (760), MCDBio 7600, Biophys 7600, or Microb 7600. This course is graded S/U. Cross-listed in OSBP, MCDBio, Biophys, and Microb.

7741 Molecular Biology and Pathogenesis of Viruses

G 5

An integrated study of the molecular mechanisms of virus replication and host-virus relationships that control virus pathogenesis or use as a therapeutic agent.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 770, VetBios 7741 (754), 841, MVIMG 7741 (754), or 841. Cross-listed in VetBios and MVIMG.

7780 Molecular Genetics Laboratory Rotations

G 3 - 6

Laboratory research procedures, literature readings, and discussions to familiarize the students with specific research areas.

Prereq: Grad standing in MolGen. Repeatable to a maximum of 16 cr hrs or 6 completions. This course is graded S/U.

7807 Gene Expression: Post-Transcriptional Control

G 3

Intensive study of problems in the general area of post-transcriptional control of gene expression. Consists of student presentations and class evaluations of recently published results in these fields.

Prereq: 5701 (701) or Biochem 702, and 6 graduate level cr hrs; or permission of instructor. Not open to students with credit for 880.07. Cross-listed in MolBIOC and VetBios.

7890 Molecular Genetics Seminar

G 1

Faculty, graduate students, and outside speakers will participate.

Prereq: Grad standing in MolGen. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

7999 Thesis Research

G 1 - 12

Research for Master's Thesis only.

Repeatable to a maximum of 60 cr hrs or 12 completions. This course is graded S/U.

8999 Dissertation Research

G 1 - 12

Research for dissertation purposes only.

Repeatable. This course is graded S/U.

Molecular, Cellular, and Developmental Biology

6193 Individual Studies

G 1 - 3

Individual studies of publications, current research, or research techniques in areas of molecular, cellular, or developmental biology.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

7600 First-Year Student Orientation

G 1

Orientation for first-year students in MCDB and partner graduate programs, lectures on topics important for successful graduate experience, training in presenting scientific work, and training in research ethics.

Prereq: Not open to students with credit for Biophys, MolGen, or Microb 7600, or OSBP 7600 (760). This course is graded S/U. Cross-listed in Biophys, MolGen, OSBP, and Microb.

7780 MCDB Laboratory Rotations

G 3 - 6

Laboratory research procedures, literature readings, and discussions to familiarize students with specific research areas.

Prereq: Grad standing in MCDBio. Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

7890 Seminar in Molecular, Cellular, and Developmental Biology

G 1

Seminar including students, faculty, and outside invited speakers.

Prereq: Grad standing in MCDBio. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

7891 Presentation in Molecular, Cellular, and Developmental Biology Seminar

G 1

Seminar including students, faculty, and outside invited speakers. Taken terms the student is presenting.

Prereq: Grad standing in MCDBio. Repeatable to a maximum of 6 cr hrs.

7990 Molecular Life Sciences Seminar Series

G 1

A research seminar course designed to expose doctoral students in the Molecular, Cellular, and Developmental Biology graduate program to cutting-edge research in the molecular and cellular life sciences.

Prereq: Grad standing in the MCDBio program. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

Moving Image Production

2201 Filmmaking Foundation I

U 3

This entry-level course presents moving image production as an artistic, cultural, and multi-modal practice. It focuses on the building blocks of film grammar and offers an introduction to fundamental concepts and tools needed to work in the moving image, grounded in critical and historical context. Students use project-based learning to work independently and collaboratively.

2202 Filmmaking Foundation II

U 3

This course is second in a sequence to introduce moving image production as an artistic, cultural, and multi-modal practice. It focuses on the building blocks of film grammar and offers an introduction to fundamental concepts and tools needed to work in the moving image, grounded in critical and historical context. Students use project-based learning to work independently and collaboratively.

Prereq: 2201.

4191 Moving-Image Production Internship

U ½ - 3

On- and off-campus internships give students the opportunity to gain hands-on experience in an area of academic and professional interest. Permission to enroll is required from a faculty advisor, and the number of credit hours associated with the internship will be determined with the advisor's input.

Prereq: Permission of MIP faculty advisor. Repeatable to a maximum of 3 cr hours or 2 completions. This course is graded S/U.

4200 Cinema Today

U ½

Students to attend a specific set of new films, documentaries, and classics at world-class venues such as the Wexner Center of the Arts and when available, any associated visiting filmmakers' discussions of their work. To synthesize these viewings, students will submit response writings that apply specific elements of film language to answer questions about the films.

Repeatable to a maximum of 3 cr hours.

Music

1021 Elementary Music Theory and Aural Training for Non-Majors

U 3

An introduction to the fundamentals of music, music reading, and aural musicianship.

Prereq: Enrollment in non-Music major. Not open to students with credit for 1121 (121).

1101.01 Beginning Piano I: Group Instruction

U 2

Group instruction for students who have had no previous piano study.

Prereq: Not open to students with credit for 101.01, or Music majors. VSP Admis Cond course.

1101.02 Beginning Voice I - Group Instruction

U 2

Group instruction for students who have had no previous voice study.

Prereq: Not open to Music majors. Repeatable to a maximum of 4 cr hrs or 2 completions. VSP Admis Cond course.

1101.35 Beginning Guitar I - Group Instruction	U 2
Introduction course in guitar for the non-music major. Includes chording, strumming and melodic playing.	
Prereq: Not open to Music majors. Repeatable to a maximum of 4 cr hrs. VSP Admis Cond course.	
1102.01 Beginning Piano II: Group Instruction	U 2
Intermediate course in piano for the non-music major.	
Prereq: 1101.01 (101.01). Not open to Music majors. Repeatable to a maximum of 4 cr hrs. VSP Admis Cond course.	
1110.12 Applied Music (Prospective Majors): Jazz Piano	U 2
Elementary applied jazz piano course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201.	
Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.	
1110.21 Applied Music (Prospective Majors): Voice	U 2
Elementary applied voice course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201.	
Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.	
1110.33 Applied Music (Prospective Majors): Cello	U 2
Elementary applied cello course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201.	
Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.	
1110.37 Applied Music (Prospective Majors): Jazz Guitar	U 2
Elementary applied jazz guitar course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201.	
Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.	
1110.45 Applied Music (Prospective Majors): Saxophone	U 2
Elementary applied saxophone course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201.	
Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.	
1110.52 Applied Music (Prospective Majors): Trumpet	U 2
Elementary applied trumpet course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201.	
Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.	
1110.53 Applied Music (Prospective Majors): Trombone	U 2
Elementary applied trombone course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201.	
Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.	
1110.72 Applied Music (Prospective Majors): Jazz Percussion	U 2
Elementary applied jazz percussion course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201.	
Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.	
1121 Elementary Music Theory and Aural Training	U 3
An introduction to the fundamentals of music, music reading, and aural musicianship.	
Prereq: Not open to students with credit for 121. VSP Admis Cond course.	
2021 Music Theory I for Non-Majors	U 2
Elements of music and musical notation; analytical concepts and terminology; fundamentals of counterpoint and melody; extensive practice through written drill and creative projects.	
Prereq: Passing of Theory Placement Exam, and permission of instructor. Not open to music majors.	
2022 Music Theory II for Non-Majors	U 2
Principles of diatonic harmony, nonchordal melodic elements, and homophony phrase structures; extensive practice in part-writing, analysis, and creative application.	
Prereq: 2021, 2221, or 222, and enrollment in non-Music major. Not open to students with credit for 223.	
2200.11 Applied Music (Secondary): Piano	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: 2264.01 or 266.01, and Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.12 Applied Music (Secondary): Jazz Piano	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.21 Applied Music (Secondary): Voice	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.31 Applied Music (Secondary): Violin	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.32 Applied Music (Secondary): Viola	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	

2200.33 Applied Music (Secondary): Cello	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.34 Applied Music (Secondary): Double Bass	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.36 Applied Music (Secondary): Jazz Bass	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.37 Applied Music - Secondary - Jazz Guitar	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.41 Applied Music - Secondary - Flute	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.42 Applied Music - Secondary - Oboe	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.43 Applied Music - Secondary - Clarinet	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.45 Applied Music - Secondary - Saxophone	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.47 Applied Music - Secondary - Jazz Saxophone	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.53 Applied Music - Secondary - Trombone	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.56 Applied Music (Secondary): Jazz Trumpet	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.57 Applied Music - Secondary - Jazz Trombone	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.71 Applied Music - Secondary - Percussion	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2200.72 Applied Music - Secondary - Jazz Percussion	U 1 - 2
Fundamental applied music instruction in areas other than a student's major or principal area.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.	
2201.11 Applied Music - Principal - Piano	U 2
Instruction in applied piano to develop musicianship, performance, and knowledge of music literature.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	
2201.12 Applied Music - Principal - Jazz Piano	U 2
Instruction in applied jazz piano to develop musicianship, performance, and knowledge of music literature.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	
2201.21 Applied Music - Principal - Voice	U 2
Instruction in applied voice to develop musicianship, performance, and knowledge of music literature.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	
2201.31 Applied Music - Principal - Violin	U 2
Instruction in applied violin to develop musicianship, performance, and knowledge of music literature.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	
2201.32 Applied Music - Principal - Viola	U 2
Instruction in applied viola to develop musicianship, performance, and knowledge of music literature.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	

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2201.33 Applied Music - Principal - Cello	U 2	2201.54 Applied Music - Principal - Euphonium	U 2
Instruction in applied cello to develop musicianship, performance, and knowledge of music literature.		Instruction in applied euphonium to develop musicianship, performance, and knowledge of music literature.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	
2201.34 Applied Music - Principal - Double Bass	U 2	2201.55 Applied Music - Principal - Tuba	U 2
Instruction in applied double bass to develop musicianship, performance, and knowledge of music literature.		Instruction in applied tuba to develop musicianship, performance, and knowledge of music literature.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	
2201.36 Applied Music - Principal - Jazz Bass	U 2	2201.56 Applied Music - Principal - Jazz Trumpet	U 2
Instruction in applied jazz bass to develop musicianship, performance, and knowledge of music literature.		Instruction in applied jazz trumpet to develop musicianship, performance, and knowledge of music literature.	
Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	
2201.37 Applied Music - Principal - Jazz Guitar	U 2	2201.57 Applied Music - Principal - Jazz Trombone	U 2
Instruction in applied jazz guitar to develop musicianship, performance, and knowledge of music literature.		Instruction in applied jazz trombone to develop musicianship, performance, and knowledge of music literature.	
Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	
2201.41 Applied Music - Principal - Flute	U 2	2201.71 Applied Music - Principal - Percussion	U 2
Instruction in applied flute to develop musicianship, performance, and knowledge of music literature.		Instruction in applied percussion to develop musicianship, performance, and knowledge of music literature.	
Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	
2201.42 Applied Music - Principal - Oboe	U 2	2201.72 Applied Music - Principal - Jazz Percussion	U 2
Instruction in applied oboe to develop musicianship, performance, and knowledge of music literature.		Instruction in applied jazz percussion to develop musicianship, performance, and knowledge of music literature.	
Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.	
2201.43 Applied Music - Principal - Clarinet	U 2	2202 Sight-reading for Pianists	U 1
Instruction in applied clarinet to develop musicianship, performance, and knowledge of music literature.		Developing tactile and visual skills at the keyboard, ensemble sight-reading duets, two-piano scores, vocal and instrumental accompanying, transposition, and figured bass realization.	
Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Enrollment in Performance major with specialization in piano. Repeatable to a maximum of 2 cr hrs.	
2201.44 Applied Music - Principal - Bass Clarinet	U 2	2203.01 Chorale	U ½ - 2
Instruction in applied bass clarinet to develop musicianship, performance, and knowledge of music literature.		A selected group of mixed voices which performs an extensive repertoire in concerts both on and off campus.	
Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission to the School of Music by audition, and permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VPA Admis Cond course.	
2201.45 Applied Music - Principal - Saxophone	U 2	2203.02 Symphonic Choir	U ½ - 2
Instruction in applied saxophone to develop musicianship, performance, and knowledge of music literature.		Symphonic Choir is a concert organization whose members perform a variety of literature.	
Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission by audition only. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.	
2201.46 Applied Music - Principal - Bassoon	U 2	2203.03 University Chorus	U ½ - 2
Instruction in applied bassoon to develop musicianship, performance, and knowledge of music literature.		Selected choral works are studied and performed.	
Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission by audition only. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.	
2201.47 Applied Music - Principal - Jazz Saxophone	U 2	2203.04 Men's Glee Club	U ½ - 2
Instruction in applied jazz saxophone to develop musicianship, performance, and knowledge of music literature.		Study and performance of choral literature for men's voices.	
Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VSP Admis Cond course.	
2201.51 Applied Music - Principal - Horn	U 2	2203.05 Women's Glee Club	U ½ - 2
Instruction in applied horn to develop musicianship, performance, and knowledge of music literature.		Study and performance of choral literature for women's voices.	
Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VSP Admis Cond course.	
2201.52 Applied Music - Principal - Trumpet	U 2	2203.07 Ladies First	U ½ - 1
Instruction in applied trumpet to develop musicianship, performance, and knowledge of music literature.		Study and performance of small ensemble choral literature for women's voices.	
Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission by audition only. Repeatable to a maximum of 8 cr hrs or 8 completions. VSP Admis Cond course.	
2201.53 Applied Music - Principal - Trombone	U 2	2203.08 Statesmen	U ½ - 1
Instruction in applied trombone to develop musicianship, performance, and knowledge of music literature.		Study and performance of small ensemble choral literature for men's voices.	
Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.		Prereq: Admission by audition only. Repeatable to a maximum of 8 cr hrs or 8 completions. VSP Admis Cond course.	
2204.01 University Wind Symphony	U ½ - 2	2204.02 University Symphonic Band	U ½ - 2
Preparation and performance of traditional and contemporary literature for symphonic band.		Preparation and performance of traditional and contemporary literature for symphonic band.	
Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VSP Admis Cond course.		Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.	

2204.03	Collegiate Winds	U	½ - 2	
	Preparation and performance of traditional, contemporary, and educational literature for concert band.			
	Prereq: Admission by audition only. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.			
2204.04	University Band	U	½ - 2	
	Offers students an opportunity to perform symphonic band literature.			
	Prereq: Prior high school instrumental experience; no formal audition required. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.			
2205.01	University Marching Band	U	½ - 2	
	The University Marching Band is a selected group of brass and percussion players that performs at football games, rallies, and concerts during Autumn semester.			
	Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.			
2205.02	Athletic Band	U	½ - 2	
	Athletic band provides spirited music for various sporting events (men's and women's basketball, spring football game), as well as several concerts.			
	Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. VSP Admis Cond course.			
2206.01	University Jazz Ensemble	U	½ - 2	
	A select group devoted to arranging, rehearsing, and performing jazz literature with an emphasis on contemporary works.			
	Prereq: Open to all students by audition and/or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VSP Admis Cond course.			
2206.02	Jazz Lab Ensemble	U	½ - 2	
	An ensemble devoted to the study and performance of music in various styles of jazz.			
	Prereq: Open to students by audition and/or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VPA Admis Cond course.			
2206.03	Jazz Workshop Ensemble	U	½ - 2	
	An ensemble devoted to the study and performance of music in various jazz, jazz rock, blues, and pop styles.			
	Prereq: Open to students by audition and/or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VSP Admis Cond course.			
2207.01	University Percussion Ensemble	U	½ - 2	
	A laboratory and performance musical ensemble whose literature consists of original and transcribed works for percussion instruments alone or with percussion as a dominant feature.			
	Prereq: Enrollment in Music major. Repeatable to a maximum of 20 cr hrs or 10 completions. VSP Admis Cond course.			
2207.02	Steel Pan Ensemble	U	½ - 1	
	A laboratory and performance experience on authentic steel pans, concentrating on traditional musics of Trinidad, as well as contemporary arrangement.			
	Repeatable to a maximum of 10 cr hrs or 10 completions. VSP Admis Cond course.			
2208.01	Small Ensemble: Piano	U	½ - 1	
	Intensive study of ensemble works for piano.			
	Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.			
2208.02	Small Ensemble: Voice	U	½ - 1	
	Intensive study of ensemble works for voice.			
	Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.			
2208.03	Small Ensemble: Strings	U	½ - 1	
	Intensive study of ensemble works for strings.			
	Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.			
2208.04	Small Ensembles: Woodwinds	U	½ - 1	
	Intensive study of ensemble works for woodwinds.			
	Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.			
2208.05	Small Ensembles: Brass	U	½ - 1	
	Intensive study of ensemble works for brass.			
	Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.			
2208.06	Small Ensembles: Jazz Combos	U	½ - 1	
	Small groups devoted to the study and performance of music in the various jazz combo styles.			
	Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			
2208.16	Small Ensemble: Gospel Choir	U	1	
	Study and performance of gospel and spiritual choir literature for mixed chorus.			
	Repeatable to a maximum of 10 cr hrs.			
2208.20	African Performing Ensemble	U	½ - 1	
	Ensemble dedicated to performing African-derived music.			
	Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.			
2208.22	Andean Music Ensemble	U	½ - 1	
	Learning to play and perform music from Bolivia, Peru, Ecuador, Chile, Colombia and Argentina. The course explores various musical genres within the Andean region. Students study techniques and methods for playing Andean instruments and learn to sing in Spanish, Quechua and Aymara.			
	Repeatable to a maximum of 10 cr hrs or 10 completions. Cross-listed in Spanish.			
2208.80	Sonic Arts Ensemble	U	½ - 1	
	An ensemble-based course focused on the use of the computer and/or electronic technologies in music performance and music composition, along with the development of new technologies (software and hardware) for sonic arts performance.			
	Prereq: Audition required. Repeatable to a maximum of 10 cr hrs or 10 completions.			
2208.99	Small Ensemble: Miscellaneous	U	½ - 1	
	Intensive study of ensemble works for varied ensembles.			
	Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.			
2209	Jazz Improvisation I	U	2	
	Fundamentals of jazz improvisation; seventh chord structures major, minor, pentatonic and blues scales; jazz patterns and phrasing; analysis and improvisation of blues and II-V progressions.			
	Prereq: 2221. Not open to students with credit for 209. This course is available for EM credit.			
2213	First Year Voice Seminar	U	1	
	Introduction to issues and materials related to a career in solo voice performance.			
	Prereq: Open to Music majors only.			
2215.01	University Symphony Orchestra	U	½ - 2	
	The University Orchestra is an 85-piece orchestra of full instrumentation devoted to the preparation of standard and modern literature.			
	Prereq: Admission by audition. Repeatable to a maximum of 24 cr hrs or 12 completions. VSP Admis Cond course.			
2215.02	First Year Orchestra	U	½ - 2	
	Rehearsal and performance experience for non-music majors who played an orchestral instrument in high school.			
	Prereq: Must have played an orchestral instrument in high school. Not open to Music majors. Repeatable to a maximum of 4 cr hrs or 2 completions. VSP Admis Cond course.			
2216.11	Applied Music (Non Major): Piano	U	2	
	Course provides fundamental applied piano instruction in piano for non-majors and minors.			
	Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.			
2216.12	Applied Music (Non Major): Jazz Piano	U	2	
	Course provides fundamental studio instruction in jazz piano for non-majors and minors.			
	Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.			
2216.21	Applied Music (Non Major): Voice	U	2	
	Course provides fundamental studio instruction in voice for non-majors and minors.			
	Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.			
2216.31	Applied Music (Non Major): Violin	U	2	
	Course provides fundamental studio instruction in violin for non-majors and minors.			
	Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.			
2216.32	Applied Music (Non Major): Viola	U	2	
	Course provides fundamental studio instruction in viola for non-majors and minors.			
	Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.			
2216.33	Applied Music (Non Major): Cello	U	2	
	Course provides fundamental studio instruction in cello for non-majors and minors.			
	Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.			
2216.34	Applied Music (Non Major): Double Bass	U	2	
	Course provides fundamental studio instruction in double bass for non-majors and minors.			
	Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.			
2216.36	Applied Music (Non Major): Jazz Bass	U	2	
	Course provides fundamental studio instruction in jazz bass for non-majors and minors.			
	Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.			

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2216.37 Applied Music (Non Major): Jazz Guitar	U	2	2224 Aural Training I	U	2	
Course provides fundamental studio instruction in jazz guitar for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.41 Applied Music (Non Major): Flute	U	2	2225 Aural Training II	U	2	
Course provides fundamental studio instruction in flute for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.42 Applied Music (Non Major): Oboe	U	2	2231 Jazz Theory	U	2	
Course provides fundamental studio instruction in oboe for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.43 Applied Music (Non Major): Clarinet	U	2	The forms and compositional techniques of jazz, including chord progression formulas, chord alteration, lead-sheet paraphrasing, countermelody and bass-line construction, and creative application.			
Course provides fundamental studio instruction in clarinet for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.45 Applied Music (Non Major): Saxophone	U	2	2232 Jazz Keyboard Harmony	U	2	
Course provides fundamental studio instruction in saxophone for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.46 Applied Music (Non Major): Bassoon	U	2	Designed to provide students with piano skills that directly relate to other jazz areas such as composition, arranging, and improvisation.			
Course provides fundamental studio instruction in bassoon for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.47 Applied Music (Non Major): Jazz Saxophone	U	2	2240 Music History I	U	3	
Course provides fundamental studio instruction in jazz saxophone for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.51 Applied Music (Non Major): Horn	U	2	The development of western art music from ancient times to 1700.			
Course provides fundamental studio instruction in horn for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.53 Applied Music (Non Major): Trombone	U	2	2241 Music History II	U	3	
Course provides fundamental studio instruction in trombone for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.54 Applied Music - Non Major - Euphonium	U	2	The development of European and American art music from 1700 to 1900.			
Course provides fundamental studio instruction in euphonium for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.55 Applied Music - Non Major - Tuba	U	2	2242 Music History III	U	3	
Course provides fundamental studio instruction in tuba for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.56 Applied Music - Non Major - Jazz Trumpet	U	2	The development of European and American art music in the 20th and 21st centuries.			
Course provides fundamental studio instruction in jazz trumpet for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.57 Applied Music - Non Major - Jazz Trombone	U	2	2244 African-American Musical Traditions	U	2	
Course provides fundamental studio instruction in jazz trombone for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2216.72 Applied Music - Non Major - Jazz Percussion	U	2	2250 Music Cultures of the World	U	3	
Course provides fundamental studio instruction in jazz percussion for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.						
2220 Introduction to Music Technology	U	1	2251 The World of Classical Music	U	3	
Introduction to the use of technology in the practice and study of music. Prereq: Open to music majors only, or permission of instructor. Not open to students with credit for 220. This course is available for EM credit.						
2221 Music Theory I	U	2	An introduction to the world of classical music and to its genres, composers, styles, societies, and historical periods. No music background is required.			
Elements of music and musical notation; analytical concepts and terminology; fundamentals of counterpoint and melody; extensive practice through written drill and creative projects. Prereq: Open to Music majors only. Not open to students with credit for 221. This course is available for EM credit.						
2222 Music Theory II	U	2	2251E The World of Classical Music	U	3	
Principles of diatonic harmony, nonchordal melodic elements, and homophony phrase structures; extensive practice in part-writing, analysis, and creative application. Prereq: 2221, 2021, or 222, and enrollment in Music major. Not open to students with credit for 223. This course is available for EM credit.						
2224 Aural Training I	U	2	An introduction to the world of classical music and to its genres, composers, styles, societies, and historical periods. No music background is required. Music 2251E is an honors embedded course.			
Prereq: Music major. Concur: 2221. Not open to keyboard majors or students with credit for 261.01. This course is available for EM credit.						
2225 Aural Training II	U	2	2253 Introduction to Jazz	U	3	
Prereq: 2225 or 2224, and 2221, 2221.01 or 222. Not open to students with credit for 225 and 226. This course is available for EM credit.						
2231 Jazz Theory	U	2	2254 Video Game Music	U	3	
Prereq: 2222 and 2225. Not open to students with credit for 231.						
2232 Jazz Keyboard Harmony	U	2	An introduction to the history and function of musical sound in video games. GE VPA course.			
Prereq: 2231 and 2261.01. Not open to students with credit for 232.						
2240 Music History I	U	3	2261.01 Keyboard Skills I	U	1	
The development of western art music from ancient times to 1700.						
Prereq: Music major, or permission of instructor. Not open to students with credit for 240.						
2241 Music History II	U	3	2261.03 String Techniques I	U	1	
The development of European and American art music from 1700 to 1900.						
Prereq: 2240, and Music major; or permission of instructor. Not open to students with credit for 241.						
2242 Music History III	U	3	2261.04 Oboe/Bassoon Techniques	U	1	
The development of European and American art music in the 20th and 21st centuries.						
Prereq: 2241, and Music major; or permission of instructor. Not open to students with credit for 242.						
2244 African-American Musical Traditions	U	2	Pedagogical and performance techniques for oboe and bassoon.			
Prereq: Not open to students with credit for 244 or AfAmAST 244. VSP Admis Cond course.						
2250 Music Cultures of the World	U	3	Prereq: Not open to students with credit for 250. GE VPA and diversity global studies course. VSP Admis Cond course.			
A survey of musical cultures outside the Western European tradition of the fine arts.						
Prereq: Not open to students with credit for 251 or Music majors. GE VPA and diversity global studies course. VSP Admis Cond course.						
2251 The World of Classical Music	U	3	2252 History of Rock 'n' Roll	U	3	
An introduction to the world of classical music and to its genres, composers, styles, societies, and historical periods. No music background is required.						
Prereq: Not open to students with credit for 251 or Music majors. GE VPA and diversity global studies course. VSP Admis Cond course.						
2251E The World of Classical Music	U	3	Prereq: Honors standing or permission of instructor. Not open to students with credit for 251 or Music majors. GE VPA and diversity global studies course. VSP Admis Cond course.			
An introduction to the world of classical music and to its genres, composers, styles, societies, and historical periods. No music background is required. Music 2251E is an honors embedded course.						
2253 Introduction to Jazz	U	3	2252 History of Rock 'n' Roll	U	3	
A study of the characteristics, styles, structures of jazz, and jazz performers.						
Prereq: Not open to students with credit for 253 or to Music majors. GE VPA course.						
2254 Video Game Music	U	3	2261.05 Keyboard Skills II	U	1	
An introduction to the history and function of musical sound in video games. GE VPA course.						
Prereq: 2253 or 2261.01. Not open to students with credit for 254.						
2261.01 Keyboard Skills I	U	1	2261.06 Keyboard Skills III	U	1	
Beginning group piano instruction for music majors.						
Prereq: Music major. Concur: 2221. Not open to keyboard majors or students with credit for 261.01. This course is available for EM credit.						
2261.03 String Techniques I	U	1	2261.07 Keyboard Skills IV	U	1	
Applied music methods and materials for strings.						
Prereq: Music major. Not open to students with credit for 261.03. This course is available for EM credit.						
2261.04 Oboe/Bassoon Techniques	U	1	2261.08 Keyboard Skills V	U	1	
Pedagogical and performance techniques for oboe and bassoon.						
Prereq: Music major. Not open to students with credit for 261.04 or 261.42. This course is available for EM credit.						

2261.07	Percussion Techniques	U	1		2288	Bebop to Doowop to Hiphop: The Rhythm and Blues Tradition	U	3
	Percussion instruction for BME majors.					Examines the aesthetic and historical evolution of Rhythm and Blues: Black music tradition including Bebop, Rock and Roll and Hip hop redefining American popular culture post WWII.		
	Prereq: Music major. Not open to students with credit for 261.07. This course is available for EM credit.					Prereq: Not open to students with credit for 288 or AfAmASt 2288 (288). GE VPA and diversity soc div in the US course. Cross-listed in AfAmASt.		
2261.11	Basic Conducting Lab-Instrumental	U	1		2297	Music Education Laboratory Ensemble	U	1
	Basic conducting skill development emphasizing pulse, rhythm and physical coordination.					Laboratory ensembles which provide performance experience on secondary instruments.		
	Prereq: Enrollment in Music major. Not open to students with credit for 261.11. This course is available for EM credit.					Repeatable to a maximum of 3 cr hrs.		
2261.12	Basic Conducting Lab-Choral	U	1		2413	Diction for Singers I	U	2
	Basic choral conducting skill development emphasizing pulse, rhythm and physical coordination.					Introduction to phonetic alphabet and advanced study of phonetics and sound production as applied to singing in Italian.		
	Prereq: Enrollment in Music major. This course is available for EM credit.					Prereq: Music major.		
2261.99	Winds, Strings, and Percussion Techniques	U	1		2414	Diction for Singers II	U	2
	Functional knowledge of wind, strings, and percussion instruments.					Advanced study of phonetics and sound production as applied to singing in German and French.		
	Prereq: Music major. Not open to instrumental majors or students with credit for 261.99. This course is available for EM credit.					Prereq: 2413, and Music major.		
2262.01	Keyboard Skills II	U	1		2470	Introduction to Music Education	U	3
	Intermediate group piano instruction for music majors.					Professional orientation for prospective school music teachers; study of musical development, human relations, discipline, evaluation, philosophy of teaching, and the music curriculum; comprehensive field experience.		
	Prereq: 2261.01 (261.01), and Music major. Not open to piano majors or students with credit for 262.01. This course is available for EM credit.					Prereq: Psych 1100, and Soph standing, and Enrollment in Music Education major. Not open to students with credit for 470.		
2262.03	String Techniques II	U	1		2470E	Introduction to Music Education	U	3
	Pedagogical and performance techniques for string instruments.					Professional orientation for prospective school music teachers; study of musical development, human relations, discipline, evaluation, philosophy of teaching, and the music curriculum; comprehensive field experience.		
	Prereq: 2261.03, and Music major. Not open to students with credit for 262.03. This course is available for EM credit.					Prereq: Honors standing, Psych 1100, and Soph standing in Music Education; or permission of instructor.		
2262.04	Flute/Clarinet/Saxophone Techniques	U	1		3021	Music Theory III for Non-Majors	U	2
	Pedagogical and performance techniques for flute, clarinet, and saxophone.					Principles of 18th- and 19th-century chromatic harmony and modulation; extensive practice in part-writing, analysis, and creative application.		
	Prereq: Music major. Not open to students with credit for 262.04. This course is available for EM credit.					Prereq: 2022 or 2222, and enrollment in non-Music major. Not open to students with credit for 421.		
2262.05	Brass Techniques	U	1		3022	Music Theory IV for Non-Majors	U	2
	Pedagogical and performance techniques for brass instruments.					Introduction to the study of the structural principles and forms of homophonic music: Extensive practice through written drill, analysis and creative projects; composition techniques in 20th century music.		
	Prereq: Music major. Not open to students with credit for 262.05. This course is available for EM credit.					Prereq: 3021 or 3421, and enrollment in non-Music major. Not open to students with credit for 422.		
2262.11	Conducting (Instrumental)	U	1		3210	Jazz Improvisation II	U	2
	Conducting instruction applied to band, orchestra, and ensemble literature and performance.					Improvisation techniques utilizing blues and pentatonic scales, elaboration of seventh chord structures; analysis of transcribed solos; improvisation of vertical, horizontal, and combination tunes; exploration of Bebop and post-bop literature.		
	Prereq: 2261.11 (261.11), and Music major. Not open to students with credit for 660. This course is available for EM credit.					Prereq: 2209. Not open to students with credit for 210. This course is available for EM credit.		
2262.12	Conducting (Choral)	U	1		3310	Introduction to Operatic Stage Techniques	U	2
	Conducting instruction applied to choral literature and performance problems.					An introductory course to stage movement techniques, character analysis, role preparation, as applied to the operatic stage.		
	Prereq: 2261.12, and Music major. Not open to students with credit for 661. This course is available for EM credit.					Prereq: 3401.21 or 3402.21, or permission of instructor. Not open to students with credit for 310.		
2262.13	Conducting (Strings)	U	1		3312	Opera Performance	U	½ - 2
	Conducting instruction applied to orchestral literature and performance.					Instruction and experience in preparation for opera performance, including study of operatic literature and coaching of operatic roles.		
	Prereq: 2261.11 (261.11), and Music major. This course is available for EM credit.					Prereq: 3310, and audition; or permission of instructor. Repeatable to a maximum of 10 cr hrs.		
2263.01	Keyboard Skills III	U	1		3315	Voice Science and Pedagogy for the Undergraduate	U	3
	Intermediate group piano instruction for music majors.					Vocal pedagogy, anatomy, and physiology of the vocal mechanism.		
	Prereq: 2262.01, and Music major. Not open to students with credit for 263.01. This course is available for EM credit.					Prereq: Open only to Voice majors.		
2263.02	Voice Pedagogy	U	1		3330	Music Production and Reception: Institutions, Patterns, and Practices	U	3
	Vocal pedagogy, anatomy, and physiology of the vocal mechanism.					Intermediate survey of the interrelationships of music, media, and commerce in society, emphasizing technology, economics, law, and the public purposes of the musical arts.		
	Prereq: Music major. Not open to students with credit for 263.02. This course is available for EM credit.					Prereq: 2271. Not open to students with credit for 330.		
2264.01	Keyboard Skills IV	U	1		3342	Introduction to Opera	U	3
	Intermediate group piano instruction for music majors.					An introduction to the dramatic and musical conventions of opera.		
	Prereq: 2263.01, and Music major. Not open to students with credit for 264.01. This course is available for EM credit.					Prereq: English 1110 (110) or 1111 (111). Not open to students with credit for 342. GE VPA course.		
2267	String Pedagogy for the Applied Studio	U	1		3343	Music, Body and Brain	U	3
	The organization, development, and pedagogy for the applied string instrument studio.					An introduction to the relationship between culturally conditioned musical experience and physiological and cognitive processes.		
	Prereq: 2201, or permission of instructor. Not open to students with credit for 267.					Prereq: English 1110 or equiv. GE VPA course.		
2268	Instrument Repair	U	1					
	Development of practical skills in identifying and correcting minor repair problems on band and orchestral instruments and their accessories.							
	Prereq: 2262.04 and 2262.05, or permission of instructor. Not open to students with credit for 268.							
2271	Introduction to Music Enterprise	U	3					
	An introductory survey of the patterns and practices associated with the intersection of music, commerce, and society from the early 19th century to the present.							
	Prereq: Not open to students with credit for 271.							

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3344 Film Music	U	3	3401.21 Applied Music - Principal - Voice	U	2	
A study of how music has functioned in film across its century-long history, as produced in Hollywood and in other countries, and by filmmakers independent of the studio system. Prereq: English 1110 or 1111. GE VPA course.						
3345 Topics in Music History	U	3	3401.31 Applied Music - Principal - Violin	U	2	
Topics vary; study of selected topics in music history and world music. Repeatable to a maximum of 15 cr hrs. GE VPA course.						
3347 From Bach to Beethoven	U	3	3401.32 Applied Music - Principal - Viola	U	2	
The styles and genres of five eminent composers of the 18th century: Bach, Handel, Mozart, Haydn, and Beethoven. Prereq: English 1110 (110) or 1111 (111). Not open to students with credit for 347. GE VPA and diversity global studies course.						
3348 Music on the Move in a Globalized World	U	3	3401.33 Applied Music - Principal - Cello	U	2	
Survey of globalization's effects on musical cultures around the world; explores both the role of diasporic migration and the use of recording and broadcasting technology. Prereq: English 1110 (110) or equiv. Not open to students with credit for 348. GE VPA and diversity global studies course.						
3349 The Beatles in 20th Century Music	U	3	3401.34 Applied Music - Principal - Double Bass	U	2	
Twentieth-century art music and popular traditions seen through the prism of the Beatles songs. Prereq: English 1110 (110) or 1111 (111), or equiv. Not open to students with credit for 349. GE VPA course.						
3350 The British Invasion: Exploring the impact of British popular music in the 1960s	U	3	3401.36 Applied Music - Principal - Jazz Bass	U	2	
Offers an introduction and orientation to the popular music of the United Kingdom, most specifically, music from the country of England. It will explore the meaning and impact of the 1960s as reflected in the music of that era. Specific attention will be given to the international exchange of musical influences between the United States and the U.K. Prereq: GPA 3.0 in respective major, and Soph standing or above. GE VPA and education abroad course.						
3351 The World of Music	U	3	3401.37 Applied Music - Principal - Jazz Guitar	U	2	
Introduction to music in non-Western cultures and societies and to the concepts, vocabulary, and methodology for dealing with this music. Prereq: Soph standing or above in Music. Not open to students with credit for 2250 or 351.						
3360 The Brazilian Experience: Surveying Brazilian Culture through Music and Education	U	3	3401.41 Applied Music - Principal - Flute	U	2	
This course offers an overview of the complex musical culture of Brazil. Beginning with an introduction to Brazilian history, this course shall focus specifically on the musical evolution the country has experienced in its 500-year history, as well as how the European, Native American, and African influences have blended to create a distinctive musical identity. Prereq: Permission of instructor. GE VPA course.						
3364 Musical Citizenship: Activism, Advocacy and Engagement in Sound	U	3	3401.42 Applied Music - Principal - Oboe	U	2	
This course examines the sonic expressions of people's status, identity, rights, and duties as political subjects across multiple scales of place. We will consider the value of cultural advocacy in the public sector and social activism in the public sphere and the importance of partnering with (non)governmental institutions, community organizations, and grassroots affiliates to advance musical art. GE VPA and diversity global studies course.						
3364E Musical Citizenship: Activism, Advocacy and Engagement in Sound	U	3	3401.43 Applied Music - Principal - Clarinet	U	2	
This course examines the sonic expressions of people's status, identity, rights, and duties as political subjects across multiple scales of place. We will consider the value of cultural advocacy in the public sector and social activism in the public sphere and the importance of partnering with (non)governmental institutions, community organizations, and grassroots affiliates to advance musical art. GE VPA and diversity global studies course.						
3370 Music for Elementary Teachers	U	2	3401.45 Applied Music - Principal - Saxophone	U	2	
Music literature and teaching aids for children, including singing, rhythmic, creative, and listening experiences, and their presentation. Prereq: Not open to students with credit for 370.						
3373 Music for Special Education Teachers	U	2	3401.46 Applied Music - Principal - Bassoon	U	2	
Music literature and teaching strategies for exceptional children, including singing, rhythmic, creative, and listening experiences. Prereq: Jr or Sr standing, and enrollment in Special Education major. Not open to students with credit for 373.						
3401.11 Applied Music - Principal - Piano	U	2	3401.47 Applied Music - Principal - Jazz Saxophone	U	2	
Applied piano instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 2201 (201), and enrollment in Music major. Not open to students with credit for 401.11. Repeatable to a maximum of 6 cr hrs.						
3401.12 Applied Music - Principal - Jazz Piano	U	2	3401.51 Applied Music - Principal - Horn	U	2	
Applied jazz piano instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 2201(201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.						
Applied horn instruction to develop musicianship, performance, and knowledge of music literature. Prereq: Music 2201 (201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.						
3401.52 Applied Music (Principal): Trumpet	U	2				
Applied trumpet instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 2201 (201). Open only to music majors. Repeatable to a maximum of 6 cr hrs.						

3401.53 Applied Music (Principal): Trombone	U	2	3402.46 Applied Music (Principal): Bassoon	U	4
Applied trombone instruction to develop musicianship, performance, and knowledge of music literature.			Bassoon instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.		
Prereq: 2201 (201). Open only to music majors. Repeatable to a maximum of 6 cr hrs.			Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.		
3401.54 Applied Music (Principal): Euphonium	U	2	3402.51 Applied Music (Principal): Horn	U	4
Applied euphonium instruction to develop musicianship, performance, and knowledge of music literature.			Horn instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.		
Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.			Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.		
3401.55 Applied Music (Principal): Tuba	U	2	3402.52 Applied Music (Principal): Trumpet	U	4
Applied tuba instruction to develop musicianship, performance, and knowledge of music literature.			Trumpet instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.		
Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.			Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.		
3401.56 Applied Music (Principal): Jazz Trumpet	U	2	3402.53 Applied Music (Principal): Trombone	U	4
Applied jazz trumpet instruction to develop musicianship, performance, and knowledge of music literature.			Trombone instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.		
Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.			Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.		
3401.57 Applied Music (Principal): Jazz Trombone	U	2	3402.71 Applied Music (Principal): Percussion	U	4
Applied jazz trombone instruction to develop musicianship, performance, and knowledge of music literature.			Percussion instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.		
Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.			Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.		
3401.71 Applied Music (Principal): Percussion	U	2	3403.11 Applied Music (Principal): Piano	U	2
Applied percussion instruction to develop musicianship, performance, and knowledge of music literature.			Applied piano instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.		
Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.			Prereq: 2201 (201). Open to BA in Music majors only. Repeatable to a maximum of 12 cr hrs.		
3401.72 Applied Music (Principal): Jazz Percussion	U	2	3403.21 Applied Music (Principal): Voice	U	2
Applied jazz percussion instruction to develop musicianship, performance, and knowledge of music literature.			Applied voice instruction in the BA curriculum to develop musicianship, performance and knowledge of music literature.		
Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.			Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.		
3402.21 Applied Music (Principal): Voice	U	4	3403.31 Applied Music (Principal): Violin	U	2
Voice instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.			Applied violin instruction in the BA curriculum to develop musicianship, performance and knowledge of music literature.		
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.			Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.		
3402.31 Applied Music (Principal): Violin	U	4	3403.32 Applied Music (Principal): Viola	U	2
Violin instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.			Applied viola instruction in the BA curriculum to develop musicianship, performance and knowledge of music literature.		
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.			Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.		
3402.33 Applied Music (Principal): Cello	U	4	3403.33 Applied Music (Principal): Cello	U	2
Cello instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.			Applied cello instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.		
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.			Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.		
3402.41 Applied Music (Principal): Flute	U	4	3403.34 Applied Music (Principal): Double Bass	U	2
Flute instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.			Applied double bass instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.		
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.			Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.		
3402.42 Applied Music (Principal): Oboe	U	4	3403.37 Applied Music (Principal): Jazz Guitar	U	2
Oboe instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.			Applied jazz guitar instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.		
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.			Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.		
3402.43 Applied Music (Principal): Clarinet	U	4	3403.41 Applied Music (Principal): Flute	U	2
Clarinet instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.			Applied flute instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.		
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.			Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.		
3402.45 Applied Music (Principal): Saxophone	U	4	3403.46 Applied Music (Principal): Bassoon	U	2
Saxophone instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.			Applied bassoon instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.		
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.			Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.		

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3403.47 Applied Music (Principal): Jazz Saxophone	U	2				
Applied jazz saxophone instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.						
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.						
3403.51 Applied Music (Principal): Horn	U	2				
Applied horn instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.						
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.						
3403.52 Applied Music - Principal - Trumpet	U	2				
Applied trumpet instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.						
Prereq: 2201 (201), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.						
3403.53 Applied Music - Principal - Trombone	U	2				
Applied trombone instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.						
Prereq: 2201 (201), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.						
3403.55 Applied Music - Principal - Tuba	U	2				
Applied tuba instruction in the BA curriculum to develop musicianship, performance and knowledge of music literature.						
Prereq: 2201 (201), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.						
3403.71 Applied Music - Principal - Percussion	U	2				
Applied percussion instruction in the BA curriculum to develop musicianship, performance and knowledge of music literature.						
Prereq: 2201 (201), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.						
3421 Music Theory III	U	2				
Principles of 18th- and 19th-century chromatic harmony and modulation; extensive practice in part-writing, analysis, and creative application.						
Prereq: 2222, and enrollment in Music major. Not open to students with credit for 421.						
3422 Music Theory IV	U	2				
Introduction to the study of the structural principles and forms of homophonic music; Extensive practice through written drill, analysis and creative projects; composition techniques in 20th century music.						
Prereq: 3421, and enrollment in Music major. Not open to students with credit for 422.						
3424 Aural Training III	U	2				
Intensive training in aural musicianship and music reading; practical application through solfège, dictation, and keyboard drill.						
Prereq: 2225. Not open to students with credit for 425.						
3425 Aural Training IV	U	2				
Advanced training in aural musicianship and music reading; practical application through solfège, dictation, and keyboard drill.						
Prereq: 3424. Not open to students with credit for 425.						
3427 Keyboard Harmony I	U	2				
Systematic review and utilization of basic harmonic materials at the keyboard.						
Prereq: 3422. Not open to students with credit for 427.						
3428 Keyboard Harmony II	U	2				
Introduction and practical experience at score reading at the keyboard.						
Prereq: 3427. Not open to students with credit for 428.						
3433 Scoring for Small Jazz Ensembles	U	2				
Scoring projects for jazz combos of various sizes and instrumentation.						
Prereq: 3422. Not open to students with credit for 433.02.						
3434 Scoring for Large Jazz Ensembles	U	2				
Scoring projects for the stage band, with concentration on voicing, ranges, doublings, balance, and notational procedures.						
Prereq: 3433. Not open to students with credit for 433.03.						
3446 Jazz Styles and Analysis	U	3				
Stylistic variants of jazz involving technical and structural aspects so that the student may recognize, play, and score them authentically.						
Prereq: Permission of instructor. Not open to students with credit for 446.						
3578 Introduction to General Music in grades K-8	U	2				
Functional music making and introduction to K-8 methods.						
Prereq: 2470 and enrollment in Music Education major. Not open to students with credit for 578.						
4193 Individual Studies	U	1 - 3				
Independent study on a special problem or topic in music.						
Prereq: Permission of instructor. Open to Music majors only. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.						
4194 Group Studies	U	1 - 3				
Group study of various topics in music.						
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.						
4500.01 Review of Music Analysis Techniques	U	2				
Review of selected music topics; intended for beginning graduate students in music.						
Prereq: Grad standing, or permission of instructor for undergrads. Repeatable to a maximum of 4 cr hrs.						
4500.02 Review of Music History	U	2				
Review of selected music topics; intended for beginning graduate students in music.						
Prereq: Grad standing, or permission of instructor for undergrads. Repeatable to a maximum of 4 cr hrs.						
4501.11 Applied Music - Principal - Piano	U	2				
Applied piano instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.21 Applied Music - Principal - Voice	U	2				
Applied voice instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.31 Applied Music - Principal - Violin	U	2				
Applied violin instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.32 Applied Music - Principal - Viola	U	2				
Applied viola instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.34 Applied Music - Principal - Double Bass	U	2				
Applied double bass instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.36 Applied Music - Principal - Jazz Bass	U	2				
Applied jazz bass instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.37 Applied Music - Principal - Jazz Guitar	U	2				
Applied jazz guitar instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.41 Applied Music - Principal - Flute	U	2				
Applied flute instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.42 Applied Music - Principal - Oboe	U	2				
Applied oboe instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.43 Applied Music - Principal - Clarinet	U	2				
Applied clarinet instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.45 Applied Music - Principal - Saxophone	U	2				
Applied saxophone instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.46 Applied Music - Principal - Bassoon	U	2				
Applied bassoon instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.47 Applied Music - Principal - Jazz Saxophone	U	2				
Applied jazz saxophone instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						
4501.51 Applied Music - Principal - Horn	U	2				
Applied horn instruction to develop musicianship, performance, and knowledge of music literature.						
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.						

4501.52 Applied Music - Principal - Trumpet	U 2	4502.45 Applied Music (Principal): Saxophone	U 4
Applied trumpet instruction to develop musicianship, performance, and knowledge of music literature.		Applied saxophone instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4501.53 Applied Music - Principal - Trombone	U 2	4502.46 Applied Music (Principal): Bassoon	U 4
Applied trombone instruction to develop musicianship, performance, and knowledge of music literature.		Applied bassoon instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4501.54 Applied Music - Principal - Euphonium	U 2	4502.47 Applied Music (Principal): Jazz Saxophone	U 4
Applied euphonium instruction to develop musicianship, performance, and knowledge of music literature.		Applied jazz saxophone instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4501.55 Applied Music - Principal - Tuba	U 2	4502.51 Applied Music (Principal): Horn	U 4
Applied tuba instruction to develop musicianship, performance, and knowledge of music literature.		Applied horn instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4501.57 Applied Music - Principal - Jazz Trombone	U 2	4502.52 Applied Music (Principal): Trumpet	U 4
Applied jazz trombone instruction to develop musicianship, performance, and knowledge of music literature.		Applied trumpet instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4501.71 Applied Music - Principal - Percussion	U 2	4502.53 Applied Music (Principal): Trombone	U 4
Applied percussion instruction to develop musicianship, performance, and knowledge of music literature.		Applied trombone instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4501.72 Applied Music - Principal - Jazz Percussion	U 2	4502.54 Applied Music (Principal): Euphonium	U 4
Applied jazz percussion instruction to develop musicianship, performance, and knowledge of music literature.		Applied euphonium instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4502.11 Applied Music - Principal - Piano	U 4	4502.55 Applied Music (Principal): Tuba	U 4
Applied piano instruction to develop musicianship, performance, and knowledge of music literature.		Applied tuba instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4502.12 Applied Music - Principal - Jazz Piano	U 4	4502.56 Applied Music (Principal): Jazz Trumpet	U 4
Applied jazz piano instruction to develop musicianship, performance, and knowledge of music literature.		Applied jazz trumpet instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4502.21 Applied Music - Principal - Voice	U 4	4502.57 Applied Music (Principal): Jazz Trombone	U 4
Applied voice instruction to develop musicianship, performance, and knowledge of music literature.		Applied jazz trombone instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4502.31 Applied Music - Principal - Violin	U 4	4502.71 Applied Music (Principal): Percussion	U 4
Applied violin instruction to develop musicianship, performance, and knowledge of music literature.		Applied percussion instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4502.33 Applied Music - Principal - Cello	U 4	4502.72 Applied Music (Principal): Jazz Percussion	U 4
Applied cello instruction to develop musicianship, performance, and knowledge of music literature.		Applied jazz percussion instruction to develop musicianship, performance, and knowledge of music literature.	
Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.		Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.	
4502.36 Applied Music - Principal - Jazz Bass	U 4	4505 Junior Recital	U 0
Applied jazz bass instruction to develop musicianship, performance, and knowledge of music literature.		Required junior recital for the Bachelor of Music and Bachelor of Music Education degrees.	
Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.		Prereq: 4501 and 4502. Repeatable to a maximum of 4 completions. This course is graded S/U.	
4502.37 Applied Music - Principal - Jazz Guitar	U 4	4510 Jazz Improvisation III	U 2
Applied jazz guitar instruction to develop musicianship, performance, and knowledge of music literature.		Advanced techniques of improvisation; the use of modal devices, complex meters, and innovative forms; concern for speed, endurance, energy levels, and problems of unaccompanied performance.	
Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.		Prereq: 3210. Not open to students with credit for 510.	
4502.41 Applied Music - Principal - Flute	U 4	4524 Orchestration I	U 2
Applied flute instruction to develop musicianship, performance, and knowledge of music literature.		A fundamental course in scoring for the instruments of the orchestra and band in transcriptions and arrangements.	
Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.		Prereq: 3422. Not open to students with credit for 524.	
4502.42 Applied Music (Principal): Oboe	U 4	4531 Elementary Studies in Counterpoint	U 2
Applied oboe instruction to develop musicianship, performance, and knowledge of music literature.		A fundamental course in counterpoint including study of the basic principles of 16th-century polyphony.	
Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.		Prereq: 3422. Not open to students with credit for 531.	
4502.43 Applied Music (Principal): Clarinet	U 4	4533 Jazz Composition	U 3
Applied clarinet instruction to develop musicianship, performance, and knowledge of music literature.		Designed to develop the skills necessary for composing/arranging for small, mixed, and large jazz ensembles.	
Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.		Prereq: 3434. Not open to students with credit for 533.	

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4535 Composition I	U 2	4587 Student Teaching in Music in Secondary Schools	U 6
A fundamental course in composition, with emphasis on creative writing in the small forms. Prereq: 3422. Not open to students with credit for 535.		Assignment to area secondary schools for observation. Prereq: Professional standing in Music Education. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.	
4555.01 Studies in Musicology: Music Before 1600	U 3	4601.11 Applied Music (Principal): Piano	U 2
Introduction to specialized topics and issues in historical musicology and ethnomusicology. Medieval and Renaissance music. Prereq: Admission to BM in Musicology, or permission of instructor.		Advanced piano instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 4501 (501). Open to BME majors only. Repeatable to a maximum of 8 cr hrs.	
4555.03 Studies in Musicology: Music from 1800 to the Present	U 3	4601.21 Applied Music (Principal): Voice	U 2
Introduction to specialized topics and issues in historical musicology and ethnomusicology. Romantic to twenty-first century music. Prereq: Admission to BM in Musicology, or permission of instructor.		Advanced voice instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 4501 (501). Open only to BME majors only. Repeatable to a maximum of 8 cr hrs.	
4555.05 Studies in Musicology: Music's Meanings	U 2 - 3	4601.31 Applied Music (Principal): Violin	U 2
A variety of approaches to how music conveys meaning, focusing in particular on the capacity of music to allude to other aspects of human experience, such as dance, storytelling, drama, and visual imagery. Prereq: Admission to BM in Musicology, or permission of instructor.		Advanced violin instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.	
4555.06 Studies in Musicology: Music Research Methods and Bibliography	U 3	4601.41 Applied Music (Principal): Flute	U 2
Survey of the methods and materials for conducting research projects in today's interdisciplinary computerized environment. Prereq: Admission to BM in Musicology, or permission of instructor.		Advanced flute instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.	
4555.07 Studies in Musicology: Introduction to Ethnomusicology	U 2	4601.43 Applied Music (Principal): Clarinet	U 2
Introduces students to the development, major topics, and methods in the field of ethnomusicology. Prereq: Admission to BM in Musicology, or permission of instructor.		Advanced clarinet instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.	
4555.08 African Music: Ideas Forms and Trajectories	U 3	4601.46 Applied Music (Principal): Bassoon	U 2
Introduction to specialized topics and issues in historical musicology and ethnomusicology. African Music. Prereq: Admission to BM in Musicology, or permission of instructor.		Advanced bassoon instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.	
4555.09 Studies in Musicology: Chinese Music	U 3	4601.47 Applied Music (Principal): Jazz Saxophone	U 2
This course is an introduction to the history, theory and practice of Chinese music, with special reference to the socio-cultural conditions of its development. Prereq: Admission to BM in Musicology, or permission of instructor.		Advanced jazz saxophone instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.	
4566 Jazz Pedagogy	U 2	4601.52 Applied Music (Principal): Trumpet	U 2
Organization and operation of the public school jazz ensemble. Prereq: Not open to students with credit for 566.		Advanced trumpet instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.	
4572 Teaching General Music in Secondary Schools	U 2	4601.53 Applied Music (Principal): Trombone	U 2
The role of music in adolescents' general education and the development of competencies essential to teaching. Prereq: Professional standing in Music Education. Not open to students with credit for 572.		Advanced trombone instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.	
4574 Teaching Choral Music I	U 2	4601.55 Applied Music (Principal): Tuba	U 2
Comprehensive choral music education, rehearsal techniques, and concert preparation. Prereq: Professional standing in Music Education. Not open to students with credit for 574.		Advanced tuba instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.	
4575 Teaching Choral Music II	U 2	4601.56 Applied Music (Principal): Jazz Trumpet	U 2
Curriculum planning for elementary through high school choirs, ethical and social issues, and survey of OMEA and world choral music repertoire. Prereq: Professional standing in Music Education. Not open to students with credit for 575.		Advanced jazz trumpet instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.	
4576 Teaching Instrumental Music in Elementary and Middle Schools	U 2	4602.11 Applied Music (Principal): Piano	U 4
The role of instrumental music instruction in education, techniques of teaching instrumental music, study of music appropriate to musical organizations in elementary and middle schools. Prereq: 2261.03 (261.03), 2261.04 (261.42 and 261.46), 2261.07 (261.07), 2262.03 (262.03), 2262.04 (262.04), and 2262.05 (262.05), and professional standing in Music Education. Not open to students with credit for 576.		Advanced piano instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502). Open to BM majors only. Repeatable to a maximum of 12 cr hrs.	
4577 Teaching Instrumental Music in Secondary Schools	U 2	4602.12 Applied Music - Principal - Jazz Piano	U 4
The role of instrumental music instruction in public education, techniques of teaching instrumental music, study of music appropriate to musical organizations in secondary schools. Prereq: 2261.03 (261.03), 2261.04 (261.42 and 261.46), 2261.07 (261.07), 2262.03 (262.03), 2262.04 (262.04), and 2262.05 (262.05), and professional standing in Music Education. Not open to students with credit for 576.		Advanced jazz piano instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.	
4579 Teaching General Music in Elementary Schools II: Planning and Practicum	U 2	4602.21 Applied Music - Principal - Voice	U 4
A study of Kodaly and intermediate Orff methodologies; the planning and implementation of musical experiences for children in elementary schools. Prereq: Professional standing in Music Education. Not open to students with credit for 579.		Advanced voice instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.	
4586 Student Teaching in Music in Elementary Schools	U 6	4602.31 Applied Music - Principal - Violin	U 4
Assignment to area elementary schools for teaching observations. Prereq: Professional standing in Music Education. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		Advanced violin instruction to develop professional qualities of musicianship, technique and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.	
		4602.33 Applied Music - Principal - Cello	U 4
		Advanced cello instruction to develop professional qualities of musicianship, technique and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.	

4602.34 Applied Music - Principal - Double Bass	U	4	4605 Senior Recital	U	0
Advanced double bass instruction to develop professional qualities of musicianship, technique and literature.			Required senior recital for the Bachelor of Music in Performance degree.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: 4602. Repeatable to a maximum of 4 completions. This course is graded S/U.		
4602.36 Applied Music - Principal - Jazz Bass	U	4	4611 Piano Pedagogy I	U	3
Advanced jazz bass instruction to develop professional qualities of musicianship, technique, and literature.			An analysis of teaching techniques and materials for individual and group instruction in piano with an emphasis on the elementary and intermediate levels.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: 4501.11 (501.11), or permission of instructor. Not open to students with credit for 611.		
4602.37 Applied Music (Principal): Jazz Guitar	U	4	4665 Arranging for the Music Educator	U	2
Advanced jazz guitar instruction to develop professional qualities of musicianship, technique and literature.			This class is designed for all music education majors who would like to be able to create custom music arrangements and custom edited parts for their future students.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: 2220, 2263.01, 3421, and 3424.		
4602.41 Applied Music - Principal - Flute	U	4	4679.01 Music Theory Senior Project	U	2
Advanced flute instruction to develop professional qualities of musicianship, technique and literature.			Preparation of senior paper and presentation of paper.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: Music Theory major, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
4602.42 Applied Music - Principal - Oboe	U	4	4679.02 Composition Senior Project	U	2
Advanced oboe instruction to develop professional qualities of musicianship, technique and literature.			Preparation of senior composition and half recital of student's composition.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: Music Composition major, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
4602.43 Applied Music - Principal - Clarinet	U	4	4679.04 Senior Thesis: Musicology	U	2
Advanced clarinet instruction to develop professional qualities of musicianship, technique and literature.			Preparation of senior thesis paper; presentation of senior thesis.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: Musicology major, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
4602.45 Applied Music - Principal - Saxophone	U	4	4679.05 Senior Pedagogy Project	U	2
Advanced saxophone instruction to develop professional qualities of musicianship, technique, and literature.			Senior project in Music Pedagogy.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: Enrollment in a performance major, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
4602.46 Applied Music - Principal - Bassoon	U	4	4679.06 Senior Project - B.S.	U	2
Advanced bassoon instruction to develop professional qualities of musicianship, technique, and literature.			In this course, students will demonstrate competency in applying creativity, problem solving and critical analysis. Students earn credit by proposing, developing, and completing an independent project.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: Music (BS) major and permission of instructor. This course is graded S/U.		
4602.47 Applied Music - Principal - Jazz Saxophone	U	4	4999H Honors Undergraduate Research Thesis	U	1 - 5
Advanced jazz saxophone instruction to develop professional qualities of musicianship, technique, and literature.			Research projects determined by thesis subject.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions.		
4602.51 Applied Music - Principal - Horn	U	4	5177 Alexander Technique	U G	1 - 2
Advanced horn instruction to develop professional qualities of musicianship, technique, and literature.			The relationship of kinesthetic perception and the postural reflexes to physical coordination in performance.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.		
4602.52 Applied Music - Principal - Trumpet	U	4	Cross-listed in Dance and Theatre.		
Advanced trumpet instruction to develop professional qualities of musicianship, technique, and literature.					
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			5187 Advanced Alexander Technique	U G	1 - 2
4602.53 Applied Music - Principal - Trombone	U	4	Advanced study in Alexander Technique.		
Advanced trombone instruction to develop professional qualities of musicianship, technique, and literature.			Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.					
4602.54 Applied Music - Principal - Euphonium	U	4	5194 Group Studies	U G	1 - 3
Advanced euphonium instruction to develop professional qualities of musicianship, technique, and literature.			Group study of various topics in music.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.		
4602.55 Applied Music - Principal - Tuba	U	4	5313 Opera Chorus	U G	3
Advanced tuba instruction to develop professional qualities of musicianship, technique, and literature.			A selected group of mixed voices which rehearses and performs selected operatic repertoire in conjunction with the OSU Opera. Instruction and experience in preparation for opera performance, including study of operatic choral literature.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Prereq: Audition and permission of the Director of Opera or the Director of Choral Activities. Repeatable to a maximum of 15 cr hrs.		
4602.56 Applied Music - Principal - Jazz Trumpet	U	4	5415 Diction for Choral Music Educators	U G	2
Advanced jazz trumpet instruction to develop professional qualities of musicianship, technique, and literature.			Offers a survey of lyric diction to acquaint future singers, teachers, and choral conductors with basic concepts and skills for the English, German, French, Latin, and Italian languages.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			Students will review the rules and symbols of the International Phonetic Alphabet (IPA).		
4602.71 Applied Music - Principal - Percussion	U	4	Prereq: Open to Music Education majors and graduate choral conducting students.		
Advanced percussion instruction to develop professional qualities of musicianship, technique, and literature.					
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.			5591 Career Development in Music	U G	3
4602.72 Applied Music - Principal - Jazz Percussion	U	4	Survey of music marketplace, opportunities, and career strategies.		
Advanced jazz percussion instruction to develop professional qualities of musicianship, technique, and literature.			Prereq: Open to Music majors only. Not open to students with credit for 591.		
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.					
			5603.01 Topics in Percussion: Instrument Repair and Logistics	U G	2
			Study of the numerous ways to repair various percussion instruments. Types of instruments and their manufacturers.		
			Prereq: Enrollment in Music major with a specialization in percussion.		
			5603.02 Drum Set: Technique, Styles and History	U G	2
			Explore and obtain performance skills, concepts and historical knowledge pertaining to the drum set.		
			Prereq: Enrollment in Music major with a specialization in classical percussion.		

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5603.03 Hand Drumming: Global Percussion	U G	2	5648 Western Art Music I	U G	2			
Explore and obtain basic performance skills and concepts with various hand drumming techniques from around the world.								
Prereq: Enrollment in Music major with a specialization in classical percussion.								
5607 Performance Enhancement I	U G	1	5649 Western Art Music II	U G	2			
Skills and techniques designed to enhance the quality of public performances. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.								
5608 Performance Enhancement II	U G	1	A survey focused on repertory and historical issues, with principal emphasis on instrumental genres. Music from 1700 to early 20th century.					
Advanced skills and techniques designed to enhance the quality of public performances. Prereq: 5607 (607), or permission of instructor. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.								
5620 Extended Tonality from Wagner to Hindemith: Theory and Analysis	U G	2	Prereq: 2241, and Grad standing, and enrollment in Music major. Not open to students with credit for 648.					
Systematic analytic observation of tonal art music from the last decades of the nineteenth century to World War II.								
Prereq: 3422. Not open to students with credit for 620.								
5621 Theory and Analysis: 17th-18th Centuries	U G	2	5650 History of Choral Music	U G	2			
Analysis of representative works from the 17th-18th century, introducing relevant theoretical concepts.								
Prereq: 3422, or a score in the upper third on the graduate placement exam. Not open to students with credit for 621.								
5622 Theory and Analysis: 19th Century	U G	2	5652 18th- and 19th-Century Song Literature	U G	2			
Analysis of representative works from the 19th century, introducing relevant theoretical concepts.								
Prereq: 3422, or a score in the upper third on the graduate placement exam. Not open to students with credit for 622.								
5623 Theory and Analysis: 20th Century	U G	2	5653.01 Piano Literature I	U G	3			
Analysis of representative works from the 20th century, introducing relevant theoretical concepts.								
Prereq: 3422, or a score in the upper third on the graduate placement exam. Not open to students with credit for 623.								
5630 Composers Seminar	U G	2	5653.02 Piano Literature II	U G	3			
Contemporary topics in composition and theory; presentation, performance, and criticism of student compositions and papers.								
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.								
5631 Intermediate Studies in Counterpoint	U G	2	5655 20th- and 21st-Century Song Literature	U G	2			
Counterpoint based on the polyphonic style of the 18th century.								
Prereq: 4531, or permission of instructor. Not open to students with credit for 631.								
5635 Composition II	U G	2 - 3	5663 School Orchestra Literature	U G	2			
Practice in creative writing; analysis, and evaluation; employment of contemporary methods of composition.								
Prereq: 4535, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.								
5636.01 Introduction to Electronic Music Synthesis	U G	3	5664 School Wind Band Repertoire	U G	2			
Techniques of composition with electronic media, history, literature, and criticism; score preparation.								
Prereq: 3422, or permission of instructor. Not open to students with credit for 636.								
5636.02 Electronic Music Synthesis	U G	3	5666 Marching Band Techniques	U G	2			
Principles of audio engineering, relationships to other communications media.								
Prereq: 5636.01, or permission of instructor. Not open to students with credit for 636.								
5637.01 Composition with Electronic Media I	U G	3	5772 Music in Early Childhood	U G	3			
Individual composition projects with electronic media.								
Prereq: 4535 and 5636.02. Repeatable to a maximum of 18 cr hrs.								
5637.02 Composition with Electronic Media II	U G	3	5797 Study at a Foreign Institution	U G	1 - 12			
Individual advanced composition projects with electronic media.								
Prereq: 5637.01. Repeatable to a maximum of 18 cr hrs.								
5638 Audio Recording	U G	3	5798 Study Tour	U G	1 - 3			
Audio recording: microphones and microphone placement; multiple-track recording; mixing; equalization and special effects.								
Prereq: Course work in Circuit Analysis from Electric Engineering or equiv, or permission of instructor. Not open to students with credit for 638.								
5639 Audio Recording Laboratory	U G	3	6193 Individual Studies	G	1 - 3			
Creating an audio recording; familiarity with the recording studio and console, use and placement of microphones; multiple-track recording equalization and special effects; mixing.								
Prereq: 5638, or permission of instructor. Repeatable to a maximum of 6 cr hrs.								
5646 History of Music in the United States	U G	2	6200.11 Applied Music (Secondary): Piano	G	2			
A survey of music in the United States from colonial times until the present.								
Prereq: Jr, Sr, or Grad standing. Not open to students with credit for 646.								
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.								
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6200.32 Applied Music (Secondary): Viola	G 2	6672 Introduction to Ethnomusicology	G 2
Secondary applied music instruction on viola with an emphasis on pedagogy.		The study of different ways in which music has been used outside the western European tradition of the fine arts.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: Grad standing in Musicology, or permission of instructor. Not open to students with credit for 672.	
6200.33 Applied Music (Secondary): Cello	G 2	6710 Introduction to Operatic Stage Techniques	G 3
Secondary applied music instruction on cello with an emphasis on pedagogy.		An introduction to stage movement techniques, character analysis, role preparation, and aria interpretation as applied to the operatic stage.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is available for EM credit.		Prereq: Grad standing. Repeatable to a maximum of 18 cr hrs.	
6200.34 Applied Music (Secondary): Double Bass	G 2	6752 Arts in Urban Contexts	G 3
Secondary applied music instruction on double bass with an emphasis on pedagogy.		The course will focus on community organizations in which artists engage with youth to encourage self expression, contributions to the community, and explore creative approaches to social change. Participants will explore dynamics of leadership, creativity, demographics, and educational strategies that are employed in such organizations.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: Grad standing.	
6200.36 Applied Music (Secondary): Jazz Bass	G 2	6786 Music Research Methods and Bibliography	G 3
Secondary applied music instruction on jazz bass with an emphasis on pedagogy.		Survey of the methods and materials for conducting research projects in music in today's interdisciplinary computerized environment.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: Grad standing. Not open to students with credit for 786.	
6200.41 Applied Music (Secondary): Flute	G 2	6812 Graduate Voice Diction and Repertoire Coaching	G 2
Secondary applied music instruction on flute with an emphasis on pedagogy.		Coaching the singer in the authentic sound production of the Italian, French, German, and Russian languages.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: Grad standing in Voice. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.	
6200.43 Applied Music (Secondary): Clarinet	G 2	6835 Composition III	G 2 - 3
Secondary applied music instruction on clarinet with an emphasis on pedagogy.		Creative writing at the masters level.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: 5635 (635). Repeatable to a maximum of 18 cr hrs or 6 completions.	
6200.45 Applied Music - Secondary - Saxophone	G 2	6837 Composition with Electronic Media III	G 3
Secondary applied music instruction on saxophone with an emphasis on pedagogy.		Advanced composition using electronically generated sound material.	
Prereq: Grad standing in Music, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: 5637.01 and 5637.02. Repeatable to a maximum of 15 cr hrs.	
6200.47 Applied Music (Secondary): Jazz Saxophone	G 2	6881 Graduate Conducting Seminar	G 1
Secondary applied music instruction on jazz saxophone with an emphasis on pedagogy.		Discussion in a seminar setting of issues related to the conducting of literature for choral, orchestral, and/or wind ensembles.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: Grad standing, and/or permission of instructor. Repeatable to a maximum of 12 cr hrs.	
6200.53 Applied Music (Secondary): Trombone	G 2	6895 Seminar in Music	G 1 - 3
Secondary applied music instruction on trombone with emphasis on pedagogy.		Colloquia, workshops, and special topics seminars in music.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.	
6200.54 Applied Music (Secondary): Euphonium	G 2	6998 Master's Research Non-Thesis	G 1 - 3
Secondary applied music instruction on euphonium with emphasis on pedagogy.		Research projects determined by instructor.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.	
6200.55 Applied Music (Secondary): Tuba	G 2	6999 Research for Master's Thesis	G 1 - 6
Secondary applied music instruction on tuba with emphasis on pedagogy.		Research projects determined by thesis subject.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Repeatable to a maximum of 36 cr hrs or 6 completions. This course is graded S/U.	
6200.56 Applied Music (Secondary): Jazz Trumpet	G 2	7194 Graduate Group Studies	G 1 - 3
Secondary applied music instruction on jazz trumpet with an emphasis on pedagogy.		A specialized topic in music taught in a group setting.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.	
6216.12 Applied Music (Non Major): Jazz Piano	G 2	7203.01 Chorale	G 1 - 2
Applied jazz piano study with special emphasis on literature and pedagogy.		Study and performance of advanced choral repertoire.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: Audition and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.	
6216.21 Applied Music (Non Major): Voice	G 2	7203.02 Symphonic Choir	G 1 - 2
Applied voice study with special emphasis on literature and pedagogy.		Study and performance of intermediate choral repertoire.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.	
6216.34 Applied Music (Non Major): Double Bass	G 2	7203.03 University Chorus	G 1 - 2
Applied double bass study with special emphasis on literature and pedagogy.		Study and performance of beginning choral repertoire.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: Audition and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.	
6216.36 Applied Music (Non Major): Jazz Bass	G 2	7203.04 Men's Glee Club	G 1 - 2
Applied jazz bass study with special emphasis on literature and pedagogy.		Study and performance of advanced repertoire for men's chorus.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: Audition and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.	
6216.41 Applied Music (Non Major): Flute	G 2	7203.05 Women's Glee Club	G 1 - 2
Applied flute study with special emphasis on literature and pedagogy.		Study and performance of advanced repertoire for women's chorus.	
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.		Prereq: Audition and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.	
6216.42 Applied Music (Non Major): Oboe	G 2		
Applied oboe study with special emphasis on literature and pedagogy.			
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.			
6630 Composer's Seminar	G 2		
Contemporary topics in composition and theory; presentation, performance, and criticism of student compositions and papers.			
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.			
6645 Music's Meanings	G 2 - 3		
An exploration of approaches to ways that music conveys meaning.			
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 645.			
6668 Instrument Repair	G 1		
Development of practical skills in identifying and correcting minor repair problems on band and orchestral instruments and their accessories.			
Prereq: Permission of instructor. Repeatable to a maximum of 2 cr hrs.			

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7204.01 Wind Symphony	G	1 - 2	7611 Piano Pedagogy II	G	3
Study and performance of repertoire appropriate for wind ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.			An analysis of repertoire for piano study at the intermediate and early advanced levels. Prereq: Grad standing. Not open to students with credit for 612.		
7204.02 Symphonic Band	G	1 - 2	7612 Piano Pedagogy III	G	3
Study and performance of repertoire for symphonic band. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.			An analysis of the development of piano technique through readings in pedagogical treatises and applications in standard piano repertoire from various style periods. Prereq: 7611. Not open to students with credit for 613.		
7204.03 Collegiate Winds	G	1 - 2	7715 Structure and Function of the Singing Mechanism	G	3
Study and performance of repertoire determined by specific ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.			Anatomy and acoustics of the voice as they relate to developmental vocal pedagogy. Prereq: Grad standing. Not open to students with credit for 715.		
7204.04 University Band	G	1 - 2	7727 Keyboard Harmony for Graduate Students	G	2 - 3
Study and performance of repertoire determined by specific ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.			Application of keyboard musicianship, including sight reading, harmonization of melodies, improvisation, transposition, realization of figured bass and modulation. Prereq: 2264.01 (264.01), 3422 (422), or equivalent with permission of instructor. Not open to students with credit for 727.		
7205.01 Univ. Marching Band	G	1 - 2	7730 Introduction to Musicology	G	3
Study and performance of repertoire for marching band. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.			Introduction to the materials, issues and methodologies of musicology. An introduction to musicology focused on sounding music and music contexts. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 730.01 or 730.02.		
7205.02 Athletic Band	G	1 - 2	7740 Studies in Music before 1600	G	3
Study and performance of repertoire for athletic band. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.			Introduction to scholarly issues in the music of the Middle Ages and the Renaissance. Prereq: 2243 (243) or equiv, 4531 (531) or equiv; and grad standing. Not open to students with credit for 740 or 741.		
7206.01 Jazz Ensemble	G	1 - 2	7741 Studies in Music from 1600 to 1800	G	3
Study and performance of repertoire determined by specific ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.			An introduction to the scholarly issues of music of the Baroque and Classic eras. Prereq: 2243 (243) or equiv, 4531 or equiv; and grad standing. Not open to students with credit for 742 or 743.		
7206.02 Jazz Lab Ensemble	G	1 - 2	7742 Studies in Music from 1800 to the Present	G	3
Study and performance of repertoire determined by specific ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.			Introduction to scholarly issues in the music from the Romantic era to the 21st century. Prereq: 2243 (243) or equiv, 4531 (531) or equiv; and grad standing. Not open to students with credit for 744 or 745.		
7206.03 Jazz Workshop Ensemble	G	1 - 2	7754 Midwest Summer String Teachers Seminar	G	2
Study and performance of repertoire determined by specific jazz ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			Seminar on current materials, music, assessment procedures, and strategies for teaching string/orchestra in the schools. Prereq: Undergrad degree in Music. Repeatable to a maximum of 20 cr hrs.		
7207.01 Percussion Ensemble	G	1	7760 Basic Concepts in Music Education	G	3
Study and performance of repertoire determined by specific percussion ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs.			The principles of music education and of the educational and cultural objectives derived from related disciplines which give direction and purpose to the music education program. Prereq: 4586 (586) or 4587 (587), or equivalent. Not open to students with credit for 760.		
7208.03 Small Ensemble: Strings	G	1	7761 Principles of Music Learning	G	3
Study and performance of repertoire determined by specific string ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs.			Analysis of the learning process in music as related to problems of music instruction in the public school. Prereq: 4586 (586) or 4587 (587), or equivalent. Not open to students with credit for 761.		
7208.04 Small Ensemble: Woodwinds	G	1	7762 Principles and Practices in Elementary School Music	G	2
Study and performance of repertoire determined by specific woodwind ensemble. Prereq: Grad standing, audition, and permission of instructor. Repeatable to a maximum of 10 cr hrs.			Analysis and appraisal of the music program in elementary schools including the relationship of music to the total school program. Prereq: 3578 (578). Not open to students with credit for 762.		
7208.05 Small Ensemble: Brass	G	1	7763 Literature of Elementary School Music	G	2
Study and performance of repertoire determined by specific brass ensemble. Prereq: Grad standing, audition, and permission of instructor. Repeatable to a maximum of 10 cr hrs.			A critical study of folk and art music of various cultures and historic periods for the general vocal and listening activities of the integrated curriculum. Prereq: 3578 (578). Not open to students with credit for 763.		
7208.06 Small Ensemble: Jazz Combo	G	1	7764 Principles and Practices in Vocal Music Education	G	2
Study and performance of repertoire determined by specific jazz ensemble. Prereq: Grad standing, audition, and permission of instructor. Repeatable to a maximum of 10 cr hrs.			Analysis and appraisal of the organization, purpose, and development of the vocal music program in secondary schools. Prereq: 4575 (575). Not open to students with credit for 764.		
7208.16 Small Ensemble: Gospel Choir	G	1	7770 Introduction to Research in Music Education	G	3
Study and performance of gospel and spiritual choir literature for mixed chorus. Repeatable to a maximum of 10 cr hrs.			A study of methods of research as applied to problems in school music. Prereq: 4586 (586), 4587 (587), or equivalent. Not open to students with credit for 770.		
7208.80 Sonic Arts Ensemble	G	1	7780.05 Piano Accompanying Practicum	G	1 - 2
Sonic Arts Ensemble is an ensemble - based course focused on the use of the computer and/or electronic technologies in music performance and music composition, along with the development of new technologies (software and hardware) for sonic arts performance. Prereq: Admission by audition. Repeatable to a maximum of 10 cr hrs.			Study of skills needed for success as a collaborative pianist. Prereq: Grad standing in Piano, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.		
7208.99 Small Ensemble: Miscellaneous	G	1	7780.11 Opera Scenes	G	3
Study and performance of repertoire determined by specific ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs.			Performance ensemble class devoted to rehearsing and performing scenes from operatic literature. Prereq: 6710 (710), and admission by audition; or permission of instructor. Repeatable to a maximum of 24 cr hrs.		
7215.01 University Symphony Orchestra	G	1 - 2			
The University Orchestra is an 85-piece orchestra of full instrumentation devoted to the preparation of standard and modern literature. Prereq: Admission by audition. Repeatable to a maximum of 24 cr hrs or 12 completions.					

7780.12 Opera Performance	G	3	7802.11 Applied Music - Major - Piano	G	2 - 4
Performance ensemble class devoted to the rehearsing and performance of full length operas; advanced rehearsal and performance techniques of operatic literature.			A specialized and intense study of the literature and techniques of piano performance.		
Prereq: 6710 (710), and admission by audition; or permission of instructor. Repeatable to a maximum of 18 cr hrs.			Prereq: Enrollment in Master of Music degree program in piano program. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7780.20 African Performing Ensemble	G	1	7802.21 Applied Music - Major - Voice	G	2 - 4
Study and performance of repertoire determined by specific ensemble.			A specialized and intense study of the literature and techniques of vocal performance.		
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs.			Prereq: Enrollment in Masters of Music program in Voice. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7780.22 Andean Music Ensemble	G	½ - 1	7802.31 Applied Music - Major - Violin	G	2 - 4
In this course students learn to play and perform music from Bolivia, Peru, Ecuador, Chile, Colombia and Argentina. The course explores various musical genres within the Andean region. Students study techniques and methods for playing Andean instruments and learn to sing in Spanish, Quechua and Aymara.			A specialized and intense study of the literature and performance techniques on violin.		
Repeatable to a maximum of 10 cr hrs or 10 completions. Cross-listed in Spanish.			Prereq: Enrollment in Master of Music program in String Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7784 Bibliography for Musicologists	G	3	7802.32 Applied Music - Major - Viola	G	2 - 4
Intensive survey of bibliographic methods and materials in music research.			A specialized and intense study of the literature and performance techniques on viola.		
Prereq: Grad standing in musicology.			Prereq: Enrollment in Master of Music program in String Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7785 Cognitive Ethnomusicology	G	3	7802.33 Applied Music - Major - Cello	G	2 - 4
Topics and issues in historical musicology and ethnomusicology.			A specialized and intense study of the literature and performance techniques on cello.		
Prereq: Grad standing.			Prereq: Enrollment in Master of Music program in String Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7787 Chinese Music	G	3	7802.34 Applied Music - Major - Double Bass	G	2 - 4
History theory and practices of Chinese music culture with special reference to the socio-cultural conditions of their development.			A specialized and intense study of the literature and performance techniques on Double Bass.		
Prereq: Grad standing. Not open to students with credit for 787.01.			Prereq: Enrollment in Master of Music program in String Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7788 Music of the Arab and Indian Traditions	G	3	7802.41 Applied Music - Major - Flute	G	2 - 4
History theory and practices of Arab and Indian music cultures with special reference to the socio-cultural conditions of their development.			A specialized and intense study of the literature and performance techniques on flute.		
Prereq: Grad standing. Not open to students with credit for 787.02 or 787.03.			Prereq: Enrollment in Master of Music program in Woodwind Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7789 African Music: Ideas Forms and Trajectories	G	3	7802.42 Applied Music - Major - Oboe	G	2 - 4
Examination of compositional choices and performance conventions in selected musical traditions from Africa.			A specialized and intense study of the literature and performance techniques on oboe.		
Prereq: 2251 (251), 6672, or AfAm&Ast equivalent; and Grad standing, or permission of instructor. Not open to students with credit for 789 or AfAm&Ast 789.			Prereq: Enrollment in Master of Music program in Woodwind Performance. Repeatable to a maximum of 24 cr hrs.		
7791 Problems in Instrumental Music Education	G	3	7802.43 Applied Music - Major - Clarinet	G	2 - 4
Study of the problems encountered in teaching supervising and organization of the instrumental music program.			A specialized and intense study of the literature and performance techniques on clarinet.		
Repeatable to a maximum of 9 cr hrs.			Prereq: Enrollment in Master of Music program in Woodwind Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7801.11 Applied Music Principal Piano	G	2 - 4	7802.45 Applied Music - Major - Saxophone	G	2 - 4
Advanced applied piano study with emphasis on musicianship, pedagogical techniques, and literature.			A specialized and intense study of the literature and performance techniques on saxophone.		
Prereq: Enrollment in Master of Arts in Piano Pedagogy program. Repeatable to a maximum of 24 cr hrs or 6 completions.			Prereq: Enrollment in Master of Music program in Woodwind Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7801.21 Applied Music Principal Voice	G	2 - 4	7802.46 Applied Music - Major - Bassoon	G	2 - 4
Advanced applied voice study with emphasis on musicianship, pedagogical techniques, and literature.			A specialized and intense study of the literature and performance techniques on bassoon.		
Prereq: Enrollment in Master of Arts in Voice Pedagogy program. Repeatable to a maximum of 24 cr hrs or 6 completions.			Prereq: Enrollment in Master of Music program in Woodwind Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7801.31 Applied Music Principal Violin	G	2 - 4	7802.51 Applied Music - Major - Horn	G	2 - 4
Advanced applied violin study with emphasis on musicianship, pedagogical techniques, and literature.			A specialized and intense study of the literature and performance techniques on horn.		
Prereq: Enrollment in Master of Arts in String Pedagogy program. Repeatable to a maximum of 24 cr hrs or 6 completions.			Prereq: Enrollment in Master of Music program in Brass Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7801.32 Applied Music Principal Viola	G	2 - 4	7802.52 Applied Music - Major - Trumpet	G	2 - 4
Advanced applied viola study with emphasis on musicianship, pedagogical techniques, and literature.			A specialized and intense study of the literature and performance techniques on trumpet.		
Prereq: Enrollment in Master of Arts in String Pedagogy program. Repeatable to a maximum of 24 cr hrs or 6 completions.			Prereq: Enrollment in Master of Music program in Brass Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7801.33 Applied Music Principal Cello	G	2 - 4	7802.53 Applied Music - Major - Trombone	G	2 - 4
Advanced applied music study with emphasis on musicianship, pedagogical techniques, and literature.			A specialized and intense study of the literature and performance techniques on trombone.		
Prereq: Enrollment in Master of Arts in String Pedagogy program. Repeatable to a maximum of 24 cr hrs or 6 completions.			Prereq: Enrollment in Master of Music program in Brass Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7801.42 Applied Music Principal Oboe	G	2 - 4	7802.71 Applied Music - Major - Percussion	G	2 - 4
Advanced applied oboe study with emphasis on musicianship, pedagogical techniques, and literature.			A specialized and intense study of the literature and performance techniques for percussion.		
Prereq: Enrollment in Master of Arts in Woodwind Pedagogy program. Repeatable to a maximum of 24 cr hrs or 6 completions.			Prereq: Enrollment in Master of Music program in Percussion Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.		
7801.45 Applied Music Principal Saxophone	G	2 - 4	7803.01 Choral Conducting	G	2
Advanced applied saxophone study with emphasis on musicianship, pedagogical techniques, and literature.			Specialization and intense study of choral conducting techniques.		
Prereq: Enrollment in Master of Arts in Woodwind Pedagogy program. Repeatable to a maximum of 24 cr hrs or 6 completions.			Prereq: Placement exam. Open only to conducting majors in the MM curriculum. Repeatable to a maximum of 8 cr hrs.		
			7803.02 Orchestral Conducting	G	2
			Specialization and intense study of orchestral conducting techniques.		
			Prereq: Placement exam. Open only to Conducting majors in the MM curriculum. Repeatable to a maximum of 8 cr hrs.		

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7803.03 Wind Conducting	G	2	7852.05 Performance Literature: Brass	G	2
Specialization and intense study of band conducting techniques. Prereq: Placement exam. Open only to Conducting majors in the MM curriculum. Repeatable to a maximum of 8 cr hrs.			Intensive study of representative brass literature from each style period. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
7805.01 Masters Thesis Recital	G	2	7852.07 Performance Literature: Percussion	G	2
Preparation and presentation of musical literature in solo performance. Prereq: Grad standing in the School of Music, and permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.			Intensive study of representative percussion literature from each style period. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
7805.02 Masters Degree Recital: Concerto	G	2	7905 Doctoral Preliminary Recital	G	2
Preparation and presentation of repertoire from the concerto literature. Prereq: Grad standing in the School of Music, and permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.			Intended for the graduate student who is preparing for the preliminary doctoral recital. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.		
7810.11 Practicum in Teaching Applied Piano	G	3	8193 Individual Studies	G	1 - 3
A critical analysis of various methods, principles, practices, and materials current in teaching applied music. Prereq: 5613, and Grad standing. Repeatable to a maximum of 6 cr hrs.			Independent study on a special problem or topic in music. Prereq: Doctoral standing, and permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.		
7810.21 History and Practice of Voice Pedagogy	G	3	8810.31 String Pedagogy for Applied Teaching	G	3
An analysis of the principles and current practices in the teaching of voice. Prereq: 5615 (615), Grad standing, and minimum 6 hrs applied voice. Repeatable to a maximum of 6 cr hrs.			Examination of pedagogy and repertoire for teaching beginning and intermediate string instrument lessons in an applied studio. Prereq: Grad standing, and enrollment in Music program. Not open to students with credit for 810.31.		
7810.30 Music Pedagogy: String Instruments	G	3	8810.32 Pedagogy for Beginning Lower Strings	G	3
A critical analysis of various methods, principles, practices, and materials current in teaching applied music. Prereq: Grad standing, and enrollment in Music program, and minimum 6 hours in applied string instruction. Repeatable to a maximum of 6 cr hrs.			Examination of pedagogy and instructional materials designed to teach first and second year cello and bass playing skills. Prereq: Music major enrolled in the Master of Arts String Pedagogy degree program. Not open to students with credit for 810.32.		
7810.40 Music Pedagogy: Woodwind Instruments	G	3	8810.33 Pedagogy for Beginning Upper Strings	G	3
A critical analysis of various methods, principles, practices, and materials current in teaching applied music. Prereq: Grad standing, and enrollment in Music program, and minimum 6 hours of applied woodwind instruction. Repeatable to a maximum of 6 cr hrs.			Examination of pedagogy and instructional materials designed to teach first and second year violin and viola. Prereq: Enrollment in the Master of Arts String Pedagogy program. Not open to students with credit for 810.33.		
7810.50 Music Pedagogy: Brass Instruments	G	3	8818 Theories of Heinrich Schenker	G	3
A critical analysis of various methods, principles, practices, and materials current in teaching applied music. Prereq: Grad standing, and enrollment in Music program, and minimum of 6 hours of applied brass instruction. Repeatable to a maximum of 6 cr hrs.			Musical structural analysis of Schenker as expressed in his own writings with emphasis on his theories rather than on graphing techniques. Prereq: 5621 (621), 5622 (622), or 5623 (623). Not open to students with credit for 818.01 or 818.02.		
7815 Seminar for Singing Health Specialists	G	2	8820 Music Theory Pedagogy	G	2
Required seminar for candidates in the Singing Health Specialization to enable coordination of skills, concepts, and practices necessary for successful SHS certification. Prereq: Admission to Singing Health Specialization. Not open to students with credit for 815 or SphHrng 7815 (815). Cross-listed in SphHrng.			Teaching of music theory in secondary schools and colleges; evaluation and application of the most effective teaching methods and principles in teaching music theory. Prereq: Grad standing, and enrollment in Music program. Not open to students with credit for 820.01.		
7829.01 Scale Theory: Transformation and Tonality	G	3	8823.01 20th Century Tone Structures: Sets and Series	G	3
Formal approaches to the theory of musical scales, with the premise that the distinct subfields of theory and transformational theory speak to fundamental questions of tonality. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs.			Fundamental approaches to the analysis of post-tonal music, focusing on aspects of pitch, including Babbitt's serial theory, Forte's set theory, and elements of Lewin's transformational theory. Prereq: 5613 (613), or permission of instructor. Not open to students with credit for 823.		
7829.02 Sonata Theory	G	3	8823.02 Transformational Theory and Analysis	G	3
Studies of musical form during the 18th and 19th centuries. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs.			Studies in transformational approaches to music; problematic aspects of tonal music; tonally dissolute music of the 19th and 20th centuries. Prereq: 5623 (623). Not open to students with credit for 823.		
7829.03 Compositional Modeling and Musical Allusion	G	3	8824.02 Computational Musicology II	G	3
Analysis of possible instances of composers who used the work of predecessor as models; interaction in such cases with notions of musical allusion. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs.			The use of computers in music research and instruction; music data structures and programming routines for music research and instruction. Prereq: 5621 (621), 5622 (622), or 5623 (623), or equivalent; or permission of instructor. Not open to students with credit for 824.01.		
7829.05 Special Topics in Theory	G	3	8826 Development of Music Theory I	G	3
Critical examination of major contemporary theoretical viewpoints; concepts of theory construction; topics will vary each semester. Prereq: Grad standing. Repeatable to a maximum of 18 cr hrs.			A study of the principal treatises on music theory from before 1400 to 1700. Prereq: 5621 (621), 5622 (622) or 5623 (623), or equiv, or permission of instructor. Not open to students with credit for 826.		
7835 Composition IV	G	2 - 3	8827 Development of Music Theory II	G	3
Creative writing of large forms at an advanced level. Prereq: 6835 or equivalent. Repeatable to a maximum of 18 cr hrs or 6 completions.			A study of the principal treatises on music theory from 1700 to 1900. Prereq: 5621 (621), 5622 (622), or 5623 (623), or equivalent; or permission of instructor. Not open to students with credit for 827.		
7852.01 Performance Literature: Piano	G	2	8837 Composition with Electronic Media IV	G	3
Intensive study of representative piano literature from each style period. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.			Advanced composition using electronically generated sound material. Prereq: 6837 (837). Repeatable to a maximum of 15 cr hrs.		
7852.02 Performance Literature: Voice	G	2	8838.01 Topics in Music Cognition	G	3
Intensive study of representative voice literature from each style period. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 16 cr hrs.			Critical survey of perceptual, cognitive, affective or neuroscience research related to music. Prereq: Permission of instructor. Not open to students with credit for 838.		
7852.03 Performance Literature: Strings	G	2	8838.02 Topics in Empirical Musicology	G	3
Intensive study of representative string literature from each style period. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.			Critical survey of quantitative and systematic research related to music. Prereq: Permission of instructor. Not open to students with credit for 838.		
7852.04 Performance Literature: Woodwinds	G	2			
Intensive study of representative woodwind literature from each style period. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.					

8838.04 Topics in Recent Literature of Music Cognition	G	3	8895 Seminar in Music	G	1 - 3
Critical readings and discussion of current research publications in music cognition. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.			Colloquia, workshops, and special topics seminars in music. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.		
8839.01 Music Cognition Research Laboratory	G	3	8902.11 Applied Music - Major - Piano	G	2 - 4
Practical experiences in laboratory studies of music. Prereq: 8838.01 (838). Repeatable to a maximum of 6 cr hrs.			Advanced study of music literature in piano performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8839.02 Research Methods in Empirical Musicology	G	3	8902.21 Applied Music - Major - Voice	G	2 - 4
Philosophical and methodological foundations of empirical music research. A study of the main techniques and concepts of empirical music research. Prereq: 8838.02 (838). Repeatable to a maximum of 6 cr hrs.			Advanced study of music literature in voice performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8847 Development of Notation: 900-1600	G	3	8902.31 Applied Music - Major - Violin	G	2 - 4
A survey of notational principles from Gregorian neumes through the mensural system of the Renaissance, with exercises in transcription. Prereq: Grad standing. Not open to students with credit for 847.			Advanced study of music literature in violin performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8850 History of Performance Practices	G	3	8902.32 Applied Music - Major - Viola	G	2 - 4
A study of primary sources pertaining to contemporary attitudes and practices in the performance of music from the Middle Ages to the present. Prereq: Grad standing. Not open to students with credit for 850.			Advanced study of music literature in viola performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8852.03 Performance Literature - Strings	G	2	8902.33 Applied Music - Major - Cello	G	2 - 4
Concentrated study of representative string literature from each style period. Prereq: 7852.03 (752.03), or Doctoral standing. Repeatable to a maximum of 8 cr hrs.			Advanced study of music literature in cello performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8852.04 Performance Literature - Woodwinds	G	2	8902.34 Applied Music - Major - Double Bass	G	2 - 4
Concentrated study of representative woodwind literature from each style period. Prereq: 7852.04 (752.04), or Doctoral standing. Repeatable to a maximum of 8 cr hrs.			Advanced study of music literature in double bass performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8852.05 Performance Literature - Brass	G	2	8902.41 Applied Music - Major - Flute	G	2 - 4
Concentrated study of representative brass literature from each style period. Prereq: 7852.05 (752.05), or Doctoral standing. Repeatable to a maximum of 8 cr hrs.			Advanced study of music literature in flute performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8852.07 Performance Literature: Percussion	G	2	8902.42 Applied Music - Major - Oboe	G	2 - 4
Concentrated study of representative percussion literature from each style period. Prereq: 7852.07, 752.07, or Doctoral standing. Not open to students with credit for 852.07. Repeatable to a maximum of 8 cr hrs.			Advanced study of music literature in oboe performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8860.01 Wind Conducting Repertoire	G	3	8902.43 Applied Music - Major - Clarinet	G	2 - 4
Concentrated study of instrumentation and repertoire of bands in Western music from the standpoint of the conductor. Prereq: DMA conducting major, or permission of instructor. Not open to students with credit for 860.01.			Advanced study of music literature in clarinet performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8860.02 Choral Conducting Repertoire	G	3	8902.45 Applied Music - Major - Saxophone	G	2 - 4
Concentrated study of choral literature from the Renaissance to the present. Prereq: DMA conducting major, or permission of instructor. Not open to students with credit for 860.02.			Advanced study of music literature in saxophone performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8860.03 Orchestral Conducting Repertoire	G	3	8902.46 Applied Music - Major - Bassoon	G	2 - 4
Concentrated study of orchestral repertoire from Monteverdi through the present from the standpoint of the conductor. Prereq: DMA conducting major, or permission of instructor. Not open to students with credit for 860.03.			Advanced study of music literature in bassoon performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8872 Qualitative Research in Music	G	3	8902.51 Applied Music - Major - Horn	G	2 - 4
This course will examine principles of qualitative research design in social sciences and their application to music teaching and learning. Prereq: Doctoral standing, or permission of instructor.			Advanced study of music literature in horn performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8874 Seminar: The Development of Music Education	G	3	8902.52 Applied Music - Major - Trumpet	G	2 - 4
Development of music education from the early Greek society to the present day tracing major trends and persons of influence. Prereq: Grad standing. Not open to students with credit for 874.			Advanced study of music literature in trumpet performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8875 Seminar: Psychological Factors in Music Education	G	3	8902.53 Applied Music - Major - Trombone	G	2 - 4
A study of the psychological factors, theory, and research in the musical development of children and adolescents with implications for school music education programs. Prereq: 7761 (761). Not open to students with credit for 875.			Advanced study of music literature in trombone performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8877 Seminar: Social Factors in Music Education	G	3	8902.55 Applied Music - Major - Tuba	G	2 - 4
A study of the social influences on music education and their relationship to primary and secondary music programs and practices. Prereq: 7760 (760). Not open to students with credit for 877.			Advanced study of music literature in tuba performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8879 Seminar: Music in Higher Education	G	3	8902.71 Applied Music - Major - Percussion	G	2 - 4
The role of music in higher education historically and in contemporary times, including its philosophical bases, degree programs, and organizations. Prereq: Grad standing. Not open to students with credit for 879.			Advanced study of music literature in percussion performance. Prereq: Enrollment in DMA program. Repeatable to a maximum of 40 cr hrs or 10 completions.		
8885 Fieldwork in Ethnomusicology	G	3	8903.01 Advanced Wind Conducting	G	4
A study of the theory and practice of ethnomusicological fieldwork. Prereq: Grad standing, and enrollment in Music program. Repeatable to a maximum of 6 cr hrs.			Study of advanced wind conducting technique and application to appropriate repertoire. Prereq: Enrollment in DMA conducting program. Repeatable to a maximum of 24 cr hrs.		
			8903.02 Advanced Choral Conducting	G	4
			Study of advanced choral conducting technique and application to appropriate repertoire. Prereq: Enrollment in DMA conducting program. Repeatable to a maximum of 24 cr hrs.		
			8903.03 Advanced Orchestral Conducting	G	4
			Study of advanced orchestral conducting technique and application to appropriate repertoire. Prereq: Enrollment in DMA conducting program. Repeatable to a maximum of 24 cr hrs.		
			8905 Doctoral Recital	G	2
			Intended for the graduate student who is preparing a doctoral recital. Prereq: 7905. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.		
			8950 Seminar in Musicology	G	3
			Research topic in musicology to be determined by the area. Prereq: Grad standing. Repeatable to a maximum of 30 cr hrs.		

330 Music

8998 Doctoral Research Non-Thesis

G 1 - 3

Research for non-thesis purposes.

Prereq: Grad standing. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.

8999 Research for Dissertation or Document

G 1 - 5

Research for dissertation or document purposes.

Prereq: Grad standing. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

Naval Science

1101 Freshmen Leadership Lab

U 1

An introduction to the practical application of basic leadership principles in the United States Navy and United States Marine Corps.

Prereq: Not open to students with credit for 111. This course is graded S/U.

1102 Freshmen Leadership Lab

U 1

A continued practical application of basic leadership principles in the United States Navy and United States Marine Corps.

Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

1110 Survey of Naval Science

U 3

Introduction to and survey of disciplines peculiar to naval science including naval tasks & missions, regulations, customs, traditions, & organizational relationships. Students must contact Naval Science Department (292-6015) for orientation program.

Prereq: Enrollment in NROTC Unit, or permission of instructor. Not open to students with credit for 111.

1210 Sea Power and Maritime Affairs Seminar

U 3

An analysis of maritime affairs as related to the United States naval forces, from the Revolutionary War to present day. Students must contact Naval Science Department (292-6015) for Naval ROTC program information.

Prereq: 1110, or permission of instructor. Not open to students with credit for 121 and 131.

2001 Sophomore Leadership Lab I

U 1

An intensified employment of leadership principles and practices relevant to future Navy and Marine Corps officers.

Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

2002 Sophomore Leadership Lab II

U 1

A continued employment of leadership principles and practices relevant to future Navy and Marine Corps officers.

Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

2110 Navigation I

U 3

A study of navigation and piloting vessels at sea, including the determination of position by dead reckoning, visual bearings, and electronic methods.

Prereq: Not open to students with credit for 211 and 221.

2210 Navigation II

U 3

A study of fleet operations including operations and tactics including the study of relative motion of ships at sea, maneuvering board, tactics, and naval communications.

Prereq: 2110, or permission of instructor. Not open to students with credit for 221 and 431.

3001 Junior Leadership Lab I

U 1

An advanced application of leadership theory, skills, and practices for prospective Navy and Marine Corps officers.

Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

3002 Junior Leadership Lab II

U 1

A continuation of the advanced application of leadership theory, skills, and practices for prospective Navy and Marine Corps officers.

Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

3110 Naval Ship Systems

U 3

Study of fundamental thermodynamics, conventional and nuclear ship propulsion systems. For Naval ROTC program information, contact 292-6015.

Prereq: Permission of instructor. Not open to students with credit for 311 and 321.

3210 Naval Mission Systems

U 3

Applications of naval weapons systems as they relate to the ships of today's Navy.

Theoretical presentation of fundamental weapons concepts including electromagnetic principles, feedback controls, and basic ballistics.

Prereq: 3110 (311 and 321). Not open to students with credit for 321 and 331.

3510 Evolution of Warfare

U 3

A study of the evolution of weapons and tactics, illustrating the principles and variables of war used in certain battles from Alexander through the present day. For ROTC program information, contact 292-6015.

Prereq: 1210 (121 and 131). Not open to students with credit for 351 and 352.

3530 Modern Basic Military Strategy and Tactics

U 2

Prepares future Marine Corps Officers by studying modern tactical principles, current military developments, & conducting physical fitness training. This course is only open to those students preparing to attend Marine Corps Officer Candidate School.

Prereq: Not open to students with credit for 353.

4001 Senior Leadership Lab I

U 1

A culmination of the knowledge, skills, theory, and leadership practices acquired in the Navy ROTC program to ensure that prospective Navy and Marine Corps officers are ready to receive a commission in the United States military.

Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

4002 Senior Leadership Lab II

U 1

A continued culmination of the knowledge, skills, theory, and leadership practices acquired in the Navy ROTC program to ensure that prospective Navy and Marine Corps officers meet all necessary requirements for commissioning as military officers.

Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

4110 Leadership and Management

U 3

A seminar study of effective leadership in a military setting involving examples from Naval history as well as modern business management practices.

Prereq: Enrollment in NROTC program, or permission of instructor. Not open to students with credit for 231.

4210 Leadership and Ethics

U 3

A study of issues relating to naval law, the Uniform Code of Military Justice and the moral principles involved in making informed decisions as a military officer.

Prereq: Enrollment in NROTC program, or permission of instructor. Not open to students with credit for 411.

4510 Amphibious & Expeditionary Warfare

U 3

A study of the concepts and evolution of amphibious warfare from history through present. For Navy ROTC program information, contact 292-6015.

Prereq: 1210 (131 and 131), or permission of instructor. Not open to students with credit for 451 and 452.

4520 Fundamentals of Maneuver Warfare

U 3

This course prepares future military officers and other leaders for service by studying modern tactical principles, current military developments, and other aspects of warfare and their interactions with and influences on maneuver warfare doctrine. There is a specific focus on the United States Marine Corps as the premier maneuver warfighting organization.

Near Eastern Languages and Cultures

2194 Group Studies

U 1 - 5

Special topics to be announced in the semester previous to the one in which the course is offered.

Prereq: Permission of instructor or department. Repeatable to a maximum of 15 cr hrs or 5 completions.

2220 Introduction to South Asian Studies

U 3

A multi-disciplinary introduction to South Asia's geographical, political, cultural, and religious contexts and connections.

Prereq: English 1110 (110) or equiv. Not open to students with credit for 265 or CompStd 2220. GE culture and ideas and diversity global studies course. Cross-listed in CompStd.

2241 The Middle East Close-Up: People, Cultures, Societies

U 3

Introduction to the culture of the Middle East as lived in its villages, towns, and cities.

Prereq: Not open to students with credit for 241 or Anthrop 2241 (241). GE cultures and ideas and diversity global studies course. Cross-listed in Anthrop.

2244 Films of the Middle East

U 3

Overview of contemporary films from different Middle Eastern countries; how filmmakers of the region view, present, and construct their countries using particular modes of representation.

Prereq: English 1110 (110). Not open to students with credit for 244. GE cultures and ideas and diversity global studies course.

2680 It's The End of The World!: Apocalypticism in Christianity, Judaism, and Islam

U 3

This course will explore how the end of the world—generally understood to be preceded by enormous wars and disasters as well as the judgment of people and a reckoning of their deeds—was imagined over two millennia by Christians, Jews, and Muslims. The course will cover primary and secondary historical works, as well as fictional bestsellers, about the apocalypse from around the world.

Prereq or concr: English 1110.xx, or permission of instructor. Not open to students with credit for History 2680. Cross-listed in History. GE historical study and diversity global studies course.

2798.01 Experiencing Everyday Life in South Asia

U 3

Introduces students to the history, politics, cultures, and identities of India. Students explore religious and historical sites (of New Delhi, Varanasi, Agra, Mathura, and Vrindavan), experience the political and cultural currents within the country, and see firsthand the broad spectrums of influences that various human movements have made on the landscape of India.

Prereq: 3620 or CompStd 3620, and admission to program. GE education abroad course.

3111 Ancient Empires

U 4

Introduction to the history and cultures of the ancient empires of southwestern Asia, focusing on the period from the Assyrian and Persian Empires to the establishment of Islam (ca 900 BCE ca 750 CE).

Prereq: English 1110. GE historical study course.

Near Eastern Languages and Cultures 331

3201 Islam in the United States U 3

An examination of the main elements of Islamic belief as well as the particular characteristics of each major Islamic group in the United States.

Prereq: Not open to students with credit for 341. GE cultures and ideas course.

3204 The Middle East in the Media U 3

Examination of contemporary Middle Eastern cultures through critical evaluation of the media which inform our understanding of international politics.

Prereq: English 1110 (110). Not open to students with credit for 344. GE cultures and ideas and diversity global studies course.

3205 Women in the Muslim Middle East U 3

Examination of the position on women in the contemporary Middle East; impact of regional environment on gender identity; gender bias studies in various Middle Eastern countries.

Prereq: English 1100 (110). Not open to students with credit for 345. GE cultures and ideas and diversity global studies course.

3230 Introduction to Shi'i Beliefs and History U 3

Introduction to the history, doctrinal tenets, and social manifestations of Shi'ism within Islam and in the context of Islamic civilization.

Prereq: English 110.

3501 Introduction to Islam U 3

Examination of Islam as a world religion, enabling an understanding of its major tenets and beliefs as they are envisioned by insiders and outsiders.

Prereq: English 1110 (110). Not open to students with credit for 351. GE cultures and ideas and diversity global studies course.

3502 Islamic Civilization Through the Ages U 3

Islamic civilization through the ages offers a panoramic view of the interrelated social, political, economic, religious and intellectual developments of regions of Africa and Asia where the religion of Islam has had significant historical impact.

3620 Everyday Life in South Asia U 3

An examination of everyday life as experienced by members of the culturally diverse population of South Asia.

Prereq: English 1100 (110). Not open to students with credit for 380 or CompStd 3620. GE cultures and ideas course. Cross-listed in CompStd.

3625.01 Understanding Bollywood, Knowing India: Hindi Cinema Since 1960 U 3

Explores life in India from the lens of Hindi language cinema. Course engages with social class, gender, sexuality, Indian diaspora in the West, family structure, marriage, politics, caste, language (special focus on multilingualism in India), religion, and globalization, and how these relate to lived experiences of people in Indian society. Classroom delivery only. Not for Film Studies credit.

Prereq: Not open to students with credit for 3625 or 3625.02. GE cultures and ideas and diversity global studies course.

3625.02 Understanding Bollywood, Knowing India: Hindi Cinema Since 1960 U 3

Explores life in India from the lens of Hindi language cinema. Course engages with social class, gender, sexuality, Indian diaspora in the West, family structure, marriage, politics, caste, language (special focus on multilingualism in India), religion, and globalization, and how these relate to lived experiences of people in Indian society. Online delivery only. Not for Film Studies credit.

Prereq: Not open to students with credit for 3625 or 3625.01. GE cultures and ideas and diversity global studies course.

3700 Mythology of Ancient Egypt and Mesopotamia U 3

An introductory comparative survey of the mythology of ancient Egypt and Mesopotamia.

Prereq: English 1110 (110). Not open to students with credit for 370. GE cultures and ideas and diversity global studies course.

3702 Literatures and Cultures of the Islamic World U 3

A survey of the Islamic world by way of literature and culture.

Prereq: English 1110 (110). Not open to students with credit for 372. GE lit and diversity global studies course.

4597 Islamic Revival and Social Justice: Utopian Ideals and Lived Realities U 3

Examination of modern Islamic revival movements in selected contemporary Muslim-majority societies.

Prereq: 4th year standing, or permission of instructor. Not open to students with credit for 597.01. GE cross-disciplinary seminar course.

4601 Israeli and Palestinian Literature U 3

An exploration of Israeli and Palestinian history, identity and conflict using a variety of Arabic and Hebrew texts in translation.

Prereq: English 110.

4998H Honors Research in Near Eastern Languages and Cultures U 1 - 3

Offers undergraduate honors students an advanced opportunity to do independent study and research beyond normal coursework.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

4999 Undergraduate Thesis U 1 - 3

Offers undergraduates with special aptitudes the opportunity to do independent study and research leading to a thesis.

Prereq: Sr standing with an average of B in all NELC classes. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

4999H Undergraduate Honors Thesis U 1 - 3

Offers undergraduates with special aptitudes the opportunity to do independent study leading to an honors thesis.

Prereq: Honors, Sr standing with an average of B in all work in NELC, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

5101 Introduction to the Field of Near Eastern Languages & Cultures U G 1

Offers a concise introduction to the field of Near Eastern Languages and Cultures and its close cognates, focusing on the history and constitution of institutional bases for the study of the Near East.

Prereq: Jr or Sr standing, and Arabic, Hebrew, or Islamic Studies major; or Grad standing.

5103 Grammar of Selected Ancient Near Eastern Languages U G 3

Fundamentals of grammar and reading in ancient Near Eastern languages (e.g. Egyptian, Coptic, Sumerian, Babylonian, Northwest Semitic dialects, Syriac).

Prereq: Knowledge of a Semitic language, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5111 Comparative Semitic Linguistics U G 3

An introduction to the study of comparative Semitic linguistics.

Prereq: Permission of instructor. Not open to students with credit for JewshSt 5111.

5120 Biblical Aramaic U G 3

Introduction to the language of the Aramaic sections of the books of Daniel and Ezra in the Old Testament.

Prereq: Hebrew 1103 (104), or permission of instructor. Not open to students with credit for 620.

5121 Jewish Aramaic U G 3

Provides students grammatical and textual skills to read Jewish post-biblical Aramaic and to introduce them to some of the most important texts written in the language. Introduces grammar of Jewish Aramaic, dialectical differences among the Aramaic of the Dead Sea Scrolls, Palestine, and Jewish Babylonia, and how these differences are reflected in the manuscript and inscriptive evidence.

Prereq: Hebrew 1103, or permission of instructor.

5125 Syriac I U G 3

Introduction to Syriac.

5126 Syriac II U G 3

Continuation from NELC 5125 Introduction to Syriac (Syriac I).

Prereq: 5125, or permission of instructor.

5130 Ugaritic U G 3

Introduction to the language and literature of Ugaritic; readings in the Ugaritic mythological literature.

Prereq: Permission of instructor. Not open to students with credit for JewshSt 5130.

5193 Individual Studies U G 1 - 10

Individual studies.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

5194 Group Studies U G 1 - 10

Group studies.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions.

5204 Culture and Politics in Central Asia U G 3

Comparative study of cultural legacy and change, including religious and secular life and civil society development, in relation to political trends in Central Asia.

Prereq: Jr standing, or permission of instructor. Not open to students with credit for 644.

5241 Interdisciplinary Approaches to South Asian Studies U G 3

A connection of the disparate threads of the geographic and cultural entity of South Asia, offering an overview and interdisciplinary perspective on the factors that affect everyday life in the region.

Prereq: English 1110 (110).

5401 Methodologies for the Study of Ancient Religions U G 3

Introduction to the methodologies and the scholars who have significantly influenced the study of ancient religion.

Prereq: Not open to students with credit for Clas 5401. Cross-listed in Clas.

5568 Studies in Orality and Literacy U G 3

Examination of major theories of writing and of oral composition and transmission, in juxtaposition to case material deriving from a variety of Middle Eastern cultures.

Prereq: Permission of instructor. Not open to students with credit for 648 or CompStd 5668 (648). Cross-listed in CompStd 5668.

332 Near Eastern Languages and Cultures

5575	Intellectuals in the Middle East	U G	3
Concerns and conditions of intellectuals in the modern Middle East. Prereq: Permission of instructor. Not open to students with credit for 675.			
5578	Islamic Law and Society	U G	3
Examination of the relationship between Islamic law and society; the concept of justice in Islam. Prereq: Permission of instructor. Not open to students with credit for 678.			
5645	Contemporary Issues in the Middle East	U G	3
Intensive examination of contemporary issues in the Middle East by applying an interdisciplinary approach. Prereq: 2200 or 245, or Jr standing. Cross-listed in IntStd.			
5797	Study at a Foreign Institution	U G	1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of department. Repeatable to a maximum of 30 cr hrs or 5 completions.			
6998	NELC MA Exams	G	1 - 3
Preparation for exams for Master of Arts in Near Eastern Languages and Cultures. Prereq: Master's student in NELC. This course is graded S/U.			
6999	NELC MA Thesis	G	1 - 4
Thesis preparation for Master of Arts in Near Eastern Languages and Cultures. Prereq: MA student in NELC. This course is graded S/U.			
7301	Theorizing Literature	G	3
Accelerated introduction to literary theory and criticism, surveying significant developments in modern and contemporary literary and cultural studies. Prereq: Grad standing, or permission of instructor(s). Not open to students with credit for CompStd 7301. Cross-listed in CompStd 7301.			
7501	Narratives of Origin: The Islamic Tradition	G	3
How the contours of the Islamic narrative fare in a source-critical context. Prereq: Grad standing, or permission of instructor(s).			
7503	Religions of Ancient Iran	G	3
Advanced study of the religions of ancient Iran, including Zoroastrianism, Manichaeism, and religions of those ruled by the ancient Persian Sasanid dynasty. Prereq: Grad standing, or permission of instructor.			
7880	Interdepartmental Studies in the Humanities	G	2 - 4
Two or more departments present colloquia on subjects of mutual interest; topics to be announced. Prereq: Grad standing, or permission of instructor(s). Repeatable to a maximum of 12 cr hrs or 5 completions.			
7998	Candidacy Exams in Near Eastern Languages & Cultures	G	1 - 8
Preparation for Candidacy Exams in Near Eastern Languages and Cultures. Prereq: PhD student preparing for Candidacy exams. This course is graded S/U.			
7999	Research for NELC Dissertation Prospectus	G	1 - 3
Doctoral dissertation prospectus research in Near Eastern Languages and Cultures. Prereq: PhD candidate. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.			
8189	Field Research in Near Eastern Languages & Cultures	G	1 - 3
Field research for doctoral dissertation in Near Eastern Languages & Cultures. Prereq: PhD candidate. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.			
8998	Doctoral Research in Near Eastern Languages and Cultures	G	1 - 3
Doctoral dissertation research in Near Eastern Languages and Cultures. Prereq: PhD candidate. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.			
8999	Dissertation Writing in Near Eastern Languages and Cultures	G	1 - 3
Doctoral dissertation writing in Near Eastern Languages and Cultures. Prereq: PhD candidates. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.			

Neurological Surgery

6193	Independent Studies in Neurological Surgery	G	1 - 40
Independent research in neurological surgery. Repeatable to a maximum of 40 cr hrs or 40 completions. This course is graded S/U.			
8250	Biology of the Tumor Microenvironment	G	2
Cellular and molecular biology of the microenvironment in solid cancers. Signals and mechanisms that promote tumor initiation and progression. Prereq: 2nd year Grad standing, with lab work complete.			

8999	Research in Neurological Surgery	G	1 - 18
Research for Thesis only. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.			

Neurology

8999	Research	G	1 - 15
Research for thesis or dissertation. Repeatable. This course is graded S/U.			

Neuroscience Department

1100	Neuroscience Survey Course	U	1
This course will introduce students to the Neuroscience curriculum, explore degree requirements, develop a personalized academic/vocational plan, aid in professional development, familiarize students with academic resources and support services, and establish a relationship with an academic advisor.			
1100H	Neuroscience Honors Survey Course	U	1
Introduces students to the Neuroscience curriculum, explore degree requirements, develop a personalized academic/vocational plan, aid in professional development, familiarize students with academic resources and support services and establish a relationship with an academic advisor.			
Prereq: Honors standing.			
3000	Cellular and Molecular Neuroscience	U	3
Course covering cellular and molecular organization of the nervous system. Prereq: Biology 1113 (113) or 1113H (115H), or permission of instructor. Not open to students with credit for NeuroSc 300.			
3010	Introduction to Neurophysiology	U	3
The course will discuss basic principles of neurophysiology working from the level of the ion channel to the whole system. Prereq: 3000 or 3050, or permission of instructor. Admis Cond course.			
3025	History of Neuroscience	U	3
Designed for neuroscience majors or non-majors. We will look at the discovery that demonstrated that different areas of the brain serve different functions, the mind-body argument, the birth of experimentation in the brain, and the discovery of neurons, neurotransmitters and neural communication. We will look into the lives of some of the major neuroscientists and their discoveries.			
3050	Structure and Function of the Nervous System	U	3
Basic principles of the anatomical and neurophysiological organization of the nervous system. Prereq: 3000. Admis Cond course.			
3191	Internship in Neuroscience	U	1 - 15
Neuroscience students have the opportunity to combine classroom theory with practical application through job-related experiences during a neuroscience related internship (Department Approval of Internship Site is Required). Maximum of 3 credit hours of any combination of Neurosc 3191 and Neurosc 3193 can be applied to the Breadth Requirements of the major. Prereq: GPA 2.0 or above, and enrollment in Neuroscience, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.			
3193	Individual Studies	U	1 - 15
This course enables students to pursue research in the field of Neuroscience under the guidance of a Neuroscience faculty member. Prereq: Permission of instructor. Repeatable to a maximum of 99 cr hrs or 10 completions. This course is graded S/U.			
4050H	Neurogenetics	U	3
This course takes a historical approach to gene discovery in neuroscience: spanning classic mutagenesis studies in simple invertebrate systems to the mapping and identification of neurological disease genes in humans, with stops along the way to explore unique genetic systems and studies, such as the Stanford dog narcolepsy project. Prereq: 3000, and MolGen 4500 or 4606; or permission of instructor.			
4100	Basic and Clinical Foundations of Neurological Disease	U	3
Discusses basic and clinical issues related to a variety of neurological disease. Prereq: 3000, or permission of instructor. Admis Cond course.			
4623	Biological Clocks and Behavior	U	3
The broad variety of biological rhythms of animals and humans, including ultradian, daily, lunar, tidal, and annual cycles. Properties of biological clocks and ways in which rhythms are generated and how they are synchronized to the external environment. Prereq: 3000. Not open to students with credit for Psych 4623 (623). Cross-listed in Psych.			
4640	Neuronal Signal Transduction	U	3
Focuses on the fundamental intracellular signaling events and transcriptional control mechanisms that shape CNS physiology and pathophysiology. The course will describe the basic molecular mechanisms that regulate transcriptional and translational control mechanisms in the nervous system. Cellular signaling pathways will be placed within a relevant context. Prereq: 3000.			

4850 Contemporary Topics in Neuroscience

U 3

A merging of pop culture and Neuroscience, this course will survey recent events and literature in the field of Neuroscience from learning and memory, neurodevelopmental disorders, the microbiome, and aging. Discover why the Wall Street Journal calls this the "Golden Age of Neuroscience."

Prereq: 3000 and Psych 3313.

4998 Undergraduate Research

U 1 - 15

Students will be given credit for participating in a research project in the laboratory of a faculty member in the Department of Neuroscience.

Prereq: Permission of instructor. Repeatable to a maximum of 10 completions. This course is progress graded (S/U). Admis Cond course.

4999 Neuroscience Undergraduate Thesis Research

U 1 - 15

A program of individual research with a Neuroscience faculty member culminating in a thesis and oral examination.

Prereq: Permission of advisor. Repeatable to a maximum of 15 cr hrs or 8 completions. This course is graded S/U.

4999H Neuroscience Undergraduate Honors Thesis Research

U 1 - 15

A program of individual research with a Neuroscience faculty member culminating in an honors thesis and oral examination.

Prereq: Honors standing, and permission of advisor. Repeatable to a maximum of 15 cr hrs or 8 completions. This course is graded S/U.

5070 Neuroengineering and Neuroprosthetics

U G 3

Gives an overview of the broad field of Neuroengineering for graduate and senior undergraduate students with engineering or neuroscience backgrounds. Focusing on neural interfaces and prostheses, this course covers from basic neurophysiology and computational neuronal models to advanced neural interfaces and prostheses currently being actively developed in the field.

Prereq: ECE 3050, BiomedE 3703, or Neurosc 3010 and permission of instructor; or Grad standing in Engr or Neurosc. Not open to students with credit for ECE 5194.03. Cross-listed in ECE.

5644 Behavioral Endocrinology

U G 3

Exploration of the interactions among hormones, brain, and behavior through an integrative approach.

Prereq: Psych 313, or Grad standing, or permission of instructor. Not open to students with credit for 644 or Psych 4644 (644). CT Admis Cond course.

5790H Developmental Neuroscience

U G 3

Investigates the molecular, cellular and genetic mechanisms responsible for building nervous systems. The brain is a complex structure, yet it develops from a single sheet of cells. We will discuss how this development tolerates tremendous genetic and environmental variability to assemble a functioning nervous system.

Prereq: Honors standing, 3000 and 3050, and Jr or Sr standing. Not open to students with credit for 7900.

6193 Individual Studies

G 1 - 15

Enables students to pursue research in the field of Neuroscience under the guidance of a faculty member in the Department of Neuroscience.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U. Admis Cond course.

6194 Group Studies

G 1 - 16

Group studies course in which various techniques used in Neuroscience research or specific topics in neuroscience will be taught.

Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions. This course is graded S/U. Admis Cond course.

7001 Foundations of Neuroscience I

G 6

Discusses basic principles of the cellular, molecular and neurophysiological, and neuropharmacological organization of the nervous system.

Prereq: Permission of instructor. Not open to students with credit for 723, 724, and Pharm 824. CT Admis Cond course.

7002 Foundations of Neuroscience II

G 6

Discusses the organization of select systems in the nervous system including motor, sensory, autonomic, and higher cognitive centers. Course will cover anatomical, functional and behavioral concepts.

Prereq: Permission of instructor. Not open to students with credit for 725, Psych 726, and Pharmcol 824. CT Admis Cond course. Cross-listed in Dent 7012.03.

7050 Neurobiology of Disease

G 3

Neurobiology of Disease will explore the basis of major diseases affecting the nervous system.

Prereq: Permission of instructor. Not open to students with credit for 705. Cross-listed in BioPhrm.

7100 Current Topics in Neuroscience

G 1

In this course students will be assigned journal articles in the field of Neuroscience. They will be expected to discuss the papers in class under faculty guidance.

Repeatable to a maximum of 15 cr hrs. This course is progress graded (S/U).

7200.01 Neuroscience Laboratory

G 1

Laboratory component of NeuroSc 7002 in which students will learn anatomy of the human brain.

Prereq: Permission of instructor. Admis Cond course. Cross-listed in Dent 7012.01.

7200.02 Current Topics in Systems Neuroscience

G 1

In this course students will be assigned journal articles in the field of Systems Neuroscience that will be correlated with material presented in NeuroSc 7002. They will be expected to discuss the papers in class under faculty guidance.

Prereq: Permission of instructor. This course is graded S/U. Admis Cond course. Cross-listed in Dent 7012.02.

7500 Neuroimmunology

G 2

Discusses research and clinical applications of inflammatory processes within the central nervous system with special emphasis on neurodegenerative disorders, autoimmune disease, and neurotrauma (e.g., spinal injury).

Prereq: Permission of instructor. Admis Cond course.

7890 Seminar Topics in Neuroscience

G 1

Selected topics in neuroscience are presented by faculty, invited speakers from outside the university, and by students enrolled in the course. Students will discuss papers related to the research of outside speakers.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

8999 Research for Dissertation

G 1 - 10

Graduate level research in neuroscience.

Prereq: Permission of instructor. Repeatable to a maximum of 20 completions. This course is graded S/U. Admis Cond course.

Neuroscience Graduate Studies Program

7887 Seminar Topics in Neuroscience

G 1

Selected topics in current neuroscience research.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

Nuclear Engineering

2194 Group Studies in Nuclear Engineering

U 1 - 4

Special group studies of a selected area of nuclear engineering not provided in other courses.

Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is graded S/U.

4193 Individual Studies in Nuclear Engineering

U 1 - 4

Designed to give the advanced student opportunity to pursue special studies not otherwise offered.

Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.

4193H Individual Studies in Nuclear Engineering

U 1 - 4

Designed to give the advanced student opportunity to pursue special studies not otherwise offered.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.

4194 Group Studies in Nuclear Engineering

U 1 - 4

Special group studies of a selected area of nuclear engineering not provided in other courses.

Prereq: Permission of Instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

4194H Group Studies in Nuclear Engineering

U 1 - 4

Special group studies of a selected area of nuclear engineering not provided in other courses.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

4505 Introduction to Nuclear Science and Engineering

U 3

Discussion of nuclear energy and nuclear radiation; sources, methods of utilization, and projections for future engineering uses.

Prereq: Math 2173, 2177, 2255 (255), or 2415 (415); and Physics 1251 (133), or permission of instructor. Not open to students with credit for 505 or MechEng 4505 (505). Cross-listed in MechEng.

4506 Undergraduate Nuclear Engineering Laboratory

U 3

A laboratory course tailored to undergraduates that will provide hands-on experience with nuclear engineering instrumentation and the OSU Research Reactor.

Prereq: 4505 (505) or MechEng 4505 (505); or permission of instructor.

4536 Nuclear Reactor Systems

U 3

Introductory course covering concepts of nuclear power reactor systems, thermal and mechanical design aspects and economics of nuclear power plants.

Prereq: 4505 (505) or MechEng 4505 (505); or permission of instructor. Not open to students with credit for 6536 (736), MechEng 4536 or 6536 (736). Cross-listed in MechEng.

4701 Introduction to Nuclear Power Engineering

U 3

For advanced undergraduates in nuclear engineering focusing on the physics and engineering of nuclear reactors and nuclear power plants.

Prereq: 4505 (505) or MechEng 4505 (505); or permission of instructor. Not open to students with credit for 701.

334 Nuclear Engineering

4998	Undergraduate Research in Nuclear Engineering	U	1 - 6	6725	Nuclear Reactor Dynamics	G	2
	Designed to give the advanced student opportunity to pursue special studies not otherwise offered.				Nuclear reactor system transient operation, control mechanisms.		
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.				Prereq: 6708 (705), or Grad standing; or permission of instructor. Not open to students with credit for 720.		
4998H	Undergraduate Research in Nuclear Engineering	U	1 - 6	6726	Reactor Dynamics Laboratory	G	2
	Designed to give the advanced student opportunity to pursue special studies not otherwise offered.				Measurement of reactor characteristics and operational parameters using the Ohio State University Research Reactor.		
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.				Prereq: 6708 or 705. Prereq or concur: 6725, or Grad standing; or permission of instructor. Not open to students with credit for 744.		
5606	Radiation Protection and Shielding	U G	3	6750	Nuclear Materials and Irradiation Effects in Materials	G	2
	General principles of radiation, radioactivity, and radiation protection including radiation sources, radioactive decay, radiation interactions, radiation detection, radiation shielding, radiation dose calculations, and biological effects.				Develop an understanding of the interactions of materials with radiation and the resulting changes in materials properties. Discussion of common materials in nuclear materials.		
	Prereq: Math 2153, 2173, 2177 or 153, and Physics 1250 or 133; or Grad standing. Not open to students with credit for 606.				Prereq: Grad standing, or permission of instructor. Not open to students with credit for 750 or MatScEn 6750 (750). Cross-listed in MatScEn.		
5610	Reactor Safety	U G	3	6766	Nuclear Engineering Design	G	2
	Introductory course covering concepts of reactor safety, the history of reactor accidents and methods of safety analysis.				A practical experience in the design process within the context of nuclear engineering. Students will be organized into groups. A design project will be specified. Each group will produce and present a final design report.		
	Prereq: 4505 (505) or MechEng 4505 (505); or Grad standing; or permission of instructor. Not open to students with credit for 610.				Prereq: NuclEn MS Core, or permission of instructor. Not open to students with credit for 766.		
5735	Nuclear Power Plant Operations	U G	3	6881	Nuclear Engineering Seminar	G	1
	Introduction to power plant systems, regulatory requirements, integrated plant operations, and emergency responses.				Discussions by graduate students and invited eminent speakers of their research projects and topics of interest in nuclear engineering.		
	Prereq: 4505 (505) or MechEng 4505 (505); or Grad standing; or permission of instructor. Not open to students with credit for 735 or 745.				Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 20 completions.		
5742	Nuclear Radiations and Their Measurements	U G	3	7865	Neutron Slowing Down and Thermalization	G	3
	Systematic study of nuclear radiation source, interaction with matter and their detection using gas-filled, semiconductor, Scintillation detectors, HPGe spectrometry, pulse processing, and statistical data analysis.				Neutron slowing down in infinite and finite media, thermal spectrum calculations, and cell calculations in heterogeneous core lattices.		
	Prereq: Not open to students with credit for 743.				Prereq: 6708, 704, 705, or 708; or permission of instructor. Not open to students with credit for 865.		
5776	Nuclear Fuel Cycle and Radioactive Waste Management	U G	3	8193	Individual Studies in Nuclear Engineering	G	1 - 4
	Review of the nuclear fuel cycle and radioactive waste management, including uranium mining, milling, conversion, enrichment, fuel fabrication, reactor operations, reprocessing, waste treatment, and disposal.				Designed to give the advanced student opportunity to pursue special studies not otherwise offered.		
	Prereq: 4505 (505) or MechEng 4505 (505); or Grad standing; or permission of instructor.				Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.		
6193	Individual Studies in Nuclear Engineering	G	1 - 4	8194	Group Studies in Nuclear Engineering	G	1 - 4
	Designed to give the advanced student opportunity to pursue special studies not otherwise offered.				Special group studies of a selected area of nuclear engineering not provided in other courses.		
	Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.				Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.		
6194	Group Studies in Nuclear Engineering	G	1 - 4	8717	Dynamic Probabilistic Risk Assessment	G	3
	Special group studies of a selected area of nuclear engineering not provided in other courses.				The students will review selected papers on dynamic probabilistic risk assessment.		
	Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.				Prereq: 6716 (716), MechEng 6665 (776.01), or 6666 (776.02); or permission of instructor. Not open to students with credit for MechEng 8717. Cross-listed in MechEng.		
6507	Intermediate Numerical Methods	G	3	8777	Risk and Reliability for Digital Instrumentation and Control Systems	G	3
	Numerical techniques and computer algorithms to solve initial and boundary value problems relevant to engineering applications, such as heat conduction and mass diffusion.				Modeling of digital instrumentation systems used in nuclear power reactor systems for reliability, safety, risk, and security assessment.		
	Prereq: MechEng 2850 (250), Math 2174 (568), 2415 (415), or 4512 (557 or 512); or Grad standing in MechEng, AeroEng, or NuclEng; or permission of instructor. Not open to students with credit for 707 or MechEng 6507 (707). Cross-listed in MechEng.				Prereq: 4505 (505) or MechEng 4505 (505), or permission of instructor. Not open to students with credit for 794J. Cross-listed in MechEng.		
6536	Nuclear Reactor Systems and Analysis	G	3	8998	Graduate Research in Nuclear Engineering	G	1 - 12
	Intermediate-level course covering thermal and mechanical design aspects of nuclear power plants. The thermodynamics of operating nuclear power plants (BWRs and PWRs) are emphasized.				Nuclear Engineering research for thesis.		
	Prereq: 4505 (505) or MechEng 4505 (505); and 3501 or 3502 (502), or equiv; or permission of instructor. Not open to students with credit for 736 or MechEng 6536 (736). Cross-listed in MechEng.				Repeatable. This course is graded S/U.		
6537	Nuclear Reactor Thermal Hydraulics	G	3	8999	Nuclear Engineering Research for Dissertation	G	1 - 15
	Focuses on heat transfer and fluid flow applications in nuclear power reactor systems, including heat transfer in LWR fuel rods, coolant, and reactor internals.				Research for dissertation purposes only.		
	Prereq: 6536 (736) or MechEng 6536 (736), or equiv, or permission of instructor. Not open to students with credit for 737 or MechEng 6537 (737). Cross-listed in MechEng.				Repeatable. This course is graded S/U.		
6708	Reactor Theory	G	3				
	Principles of neutron chain reaction, neutron diffusion and moderation. One, two and multi-group diffusion equation and analytical solutions. Heterogeneous reactors and homogenization. Commercial reactors.						
	Prereq: 4505 (505) or MechEng 4505 (505); or Grad standing; or permission of instructor. Not open to students with credit for 704 or 705 or 708.						
6716	Probabilistic Reliability and Safety Assessment	G	3				
	Methods underlying probabilistic risk assessment (PRA) and how they are used in assessing the public health risk of nuclear systems.						
	Prereq: 4505 (505), MechEng 4505 (505), Grad standing, or permission of instructor. Not open to students with credit for 5716 (716) or MechEng 5716 (716). Cross-listed in MechEng.						

Nursing

1100	Nursing Survey	U	1
	Introduction to the university community, the College of Nursing, and the profession of nursing with emphasis on strategies for success, resources, and procedures. Designed for students admitted as freshman. 1100H (honors) may be available.		
	Prereq: Enrollment in pre-Nursing. Not open to students with credit for 100. This course is progress graded (S/U).		
1103	Nursing Assistant Education	U	3
	Knowledge and skills necessary to provide patient care as a nursing assistant in various healthcare settings.		
	Prereq: Permission of Nursing 1103 course head.		
2100	Introduction to Professional Nursing: Concepts and Practice	U	3
	Introduction to professional Nursing and the health care delivery system, its history and evolution, and the examination of the legal and ethical basis for professional practice.		
	Prereq: Admission to the Nursing major. Not open to students with credit for 301.01 or 301.02 or 301.03.		

2102	5 to Thrive: COPE (Creating Opportunities for Personal Empowerment)/Healthy Lifestyles	U	3	
	Concepts and strategies for managing stress, building cognitive-behavioral skills, setting goals, and leading a healthy lifestyle to improve health and academic outcomes through didactic information and skill-building activities.			
2270	Nursing Care of Adults and Older Adults I	U	5	
	Nursing knowledge essential to caring for adults and older adults with emphasis on health promotion, risk assessment, disease prevention, and health problems. Prereq: 2100, 2410, and 2450. Not open to students with credit for 402 and 403.			
2367	Writing About Healthcare Issues in the United States	U	3	
	Designed to enhance student's critical and analytical reading and writing skills through a study of current health issues in the United States. Prereq: English 1110 (110) or equiv. Not open to students with credit for 367. GE writing and comm course: level 2.			
2410	Health Assessment	U	3	
	Introduction to the foundational health assessment concepts of Nursing and the assessment skills required in the provision of Nursing care across the lifespan. Prereq: Admission to the Nursing major. Not open to students with credit for 301.01 or 301.02 or 301.03.			
2420	A Nursing Perspective: Life Span Development of Individuals within a Family Context	U	3	
	Study of growth and development of individuals within a family context from conception to death with an emphasis on assessment and interventions utilized in Nursing practice. Prereq: Admission to the Nursing major. Not open to students with credit for 337.			
2450	Pathophysiology for Nursing Practice	U	3	
	Study of pathophysiology and disease processes across the lifespan as a scientific foundation for nursing practice. Prereq: Admission to Nursing major. Not open to students with credit for 385.01 or 385.02 or 385.03.			
2460	Introduction to Therapeutic Communication for Health Professionals	U	3	
	Introduction to the process of effective communication and collaboration in health care settings. Prereq: Admission to the Nursing major. Not open to students with credit for 301.01 or 301.02 or 301.03.			
2470	Introductory Pharmacology for Nurses	U	3	
	Introduction to pharmacokinetic principles, drug mechanism of action and nursing implications for common classes of medications. Prospective Graduate Entry Nursing students may enroll in Spring semester by contacting nursing@osu.edu . Prereq: 2100, 2410, 2450, and 2460. Not open to students with credit for 604.			
2780	Scholarship for Evidence Based Practice	U	3	
	Introduction to information literacy, Nursing research methods, evidence based practice, the linkages among these areas and how they influence professional Nursing practice. Prereq: Enrollment in the Nursing major. Not open to students with credit for 360.01 or 360.02 or 360.03.			
2781H	Honors Research Methods	U	4	
	Introduction to information literacy, nursing research methods, evidence based practice, the linkages between these areas and how they influence professional nursing practice through direct involvement in the research process. Prereq: Honors standing. Soph standing in the major. Not open to students with credit for 541H.			
2798	Nursing Short Term Study Abroad Program	U	1 - 4	
	Preparing students for travel and learning experiences abroad. Participant in the College of Nursing short term study abroad program required. Prereq: Enrollment in Nursing major. Repeatable to a maximum of 2 completions. This course is graded S/U.			
2890.01H	Sophomore Honors Seminar I	U	1	
	Discussion of topics relevant to academic, professional, and personal development in nursing. Prereq: Honors standing, and Soph standing in Nursing. Not open to students with credit for 320.01H, 320.02H, or 320.03H.			
2890.02H	Sophomore Honors Seminar II	U	1	
	Discussion of topics relevant to academic, professional, and personal development in nursing. Prereq: Honors standing, and 2890.01H; or permission of instructor. Not open to students with credit for 320.01, 320.02, or 320.03.			
3115	School Health Roles and Responsibilities	U	3	
	Introduction to the scope of roles and responsibilities involved in school health services locally and globally within school and community settings. Consideration of regulatory directives, health goals and resources. Analysis of skills and factors used to promote healthy school environments. Prereq: Admission to certificate program, or permission of instructor.			
3116	Management of School Health Services	U	3	
	Overview of the strategies for promoting school health on a daily, weekly, and annual basis focusing on health promotion and disease prevention. Prereq: Admission to certificate program, or permission of instructor.			
3117	Children with Special Needs in Schools	U	3	
	School health services for children with special needs in schools based on best evidence. Interdisciplinary, legislative, and professional aspects considered. Prereq: Admission to certificate program, or permission of instructor.			
3118	Practicum in School Nursing	U	3	
	Supervised school nurse field experience in school setting applying the roles and responsibilities of a school nurse according to state and national standards. Prereq: Admission to certificate program; recent health assessment course; 3115, 3116, 3117; or permission of instructor.			
3200	Failure to Rescue: Recognition and Management of Clinical Triggers	U	2	
	Designed to introduce students to ECG interpretation and the clinical and decision-making skills necessary to recognize and respond to changes in patients' conditions. Prereq: Jr standing in Nursing, or professional nurse, or permission of instructor. Not open to students with credit for 525.			
3270	Nursing Care of Adults and Older Adults II	U	7	
	Nursing knowledge essential to caring for adults and older adults with emphasis on management of acutely ill patients with complex health problems. Prereq: 2270. Not open to students with credit for 501.			
3403	Concepts in Gerontological Nursing	U	1 - 3	
	Develops nursing knowledge essential to caring for older adults; emphasis on health promotion, risk assessment, disease prevention and common acute and chronic health problems. Prereq: 301.03 and 385.03.			
3430	Cultural Competence in Health Care: US and Global Contexts	U	3	
	Introduction to concepts and techniques for the provision of culturally competent care within the U.S. and across global contexts. Prereq: Enrollment in the Nursing major. Not open to students with credit for 440.			
3890.01H	Junior Honors Seminar I	U	1	
	Discussion of topics relevant to research and the senior thesis proposal. Prereq: Honors standing, and 2890.02H; or permission of instructor. Not open to students with credit for 420.01H, 420.02H, or 420.03H.			
3890.02H	Junior Honors Seminar II	U	1	
	Discussion of topics relevant to research and the senior thesis proposal. Prereq: Honors standing, and 3890.01H; or permission of instructor. Not open to students with credit for 420.01H, 420.02H, or 420.03H.			
4110	Nursing Process in the Perioperative Setting	U	2	
	Study of the nursing process with clients in the preoperative, intraoperative and postoperative phase; emphasis on patient care coordinator, nursing roles, and evidence-based practice. Prereq: Jr or Sr standing in the College of Nursing, or permission of instructor. This course is graded S/U.			
4193	Individual Studies in Nursing	U	1 - 4	
	Students will gain skills and knowledge within a focused area of study within the area of expertise of a nursing faculty mentor. The course will expose students to novel scholarly activities and provide individualized learning opportunities. Prereq: Enrollment in Nursing major, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.			
4240S	Concepts in Community Health Nursing	U	4	
	Study of community health nursing theory and principles applied to the nursing care of individuals, families, groups, communities, and populations. Prereq: 2270 and 3270. Not open to students with credit for 511S.			
4260	Nursing Care of Children and Their Families	U	4	
	Nursing knowledge essential to caring for children and families with emphasis on health promotion, risk assessment, disease prevention, and common acute and chronic health problems. Prereq: 2270. Not open to students with credit for 405.			
4270	Transition to Professional Nursing	U	6	
	Exploration of personal and professional topics designed to assist in promoting successful transition from nursing education to a rapidly changing work environment. Prereq: 3270. Not open to students with credit for 503.			
4280	Nursing Care of Women and their Families during Reproductive Transitions	U	4	
	Nursing knowledge and clinical practice essential to caring for women and their families during reproductive transitions. Prereq: 2270. Not open to students with credit for 404.			
4340	Psychiatric and Mental Health Nursing	U	4	
	Nursing knowledge applied to the promotion of mental health and to the recovery of individuals with psychiatric diagnoses and their families. Prereq: 2270. Not open to students with credit for 512.			

336 Nursing

4400 Leadership and Management of Nursing Practice	U	3	5431 Global Health Care in Your Own Back Yard	U G	3	
Exploration of leadership and management principles, including an examination of Nursing informatics, as applied to Nursing practice and the health care environment.						
Prereq: 3270. Not open to students with credit for 503.			Designed for graduate students to develop strategies for culturally competent interdisciplinary health care in selected ethnic communities that have immigrated to the United States.			
4501 Concepts in High Acuity Nursing	U	3	5797 Study at a Foreign Institution	U G	1 - 18	
Nursing knowledge essential to management of high acuity patients and their families in a variety of health care settings.						
Prereq: 390, 402, 403, 404, 405, and 440. This course is graded S/U.			An opportunity for students to study at a foreign institution and receive OSU credit for work completed there. Students will pay OSU fees and any fees in excess of OSU tuition, as well as all travel and subsistence costs.			
4890.01H Senior Honors Seminar I	U	1	Prereq: Permission of department chairperson. Repeatable.			
Discussion of topics relevant to research and the senior thesis proposal and professional development in nursing.						
Prereq: Honors standing, and 3890.02H; or permission of instructor. Not open to students with credit for 520.01H, 520.02H, or 520.03H.			5798 Study Tour	U G	1/2 - 4	
4890.02H Senior Honors Seminar II	U	1	Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Must attend required Office of International Affairs (OIA) and College of Nursing pre-departure orientation sessions, and enroll in the U.S. Department of State Smart Traveler Program as required by OIA.			
Discussion of topics relevant to research and the senior thesis proposal and professional development in nursing.						
Prereq: Honors standing, and 4890.01H; or permission of instructor. Not open to students with credit for 520.01H, 520.02H, or 520.03H.			Prereq: Enrollment in Nursing, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 2 completions. This course is graded S/U.			
4999H Honors Thesis Research	U	1/2 - 5	6100 Introduction to Professional Nursing Practice	G	2	
Undergraduate Honors thesis research on nursing topics.						
Prereq: Enrollment in Honors nursing, and Sr standing. This course is graded S/U.			Exploration of personal and professional topics designed to assist in promoting successful transition to the nursing profession in a rapidly changing health care environment.			
5000 Interdisciplinary Case Management for Working with Underserved Populations	U G	2	Prereq: Grad standing. Not open to students with credit for 611.			
Provides students the opportunity to collaborate with students from other health care professions including pharmacy, health and rehabilitation sciences, nursing, medicine and social work. The students will use a problem-based learning approach to patient care in community health, focusing on populations, living in poverty, with complex healthcare needs.						
Prereq: Sr or Grad standing. This course is graded S/U. Cross-listed in HthRhSc, MedColl, Phr, and SocWork.			6110 Health Literacy	G	2	
5110 Interpersonal Relationships: Personal and Professional Boundaries	U G	1	Examination and analysis of issues of low health literacy, including populations at risk, research, measurement tools, writing in plain language; health communication techniques; and organizational approaches.			
In depth study of interpersonal relationship boundary issues in personal and professional relationships.						
Prereq: Not open to students with credit for 450. This course is progress graded (S/U).			Prereq: Grad standing in Health Sciences Professions, Literacy Studies Specialization, Geriatrics Specialization, College and University Teaching Specialization, or permission of faculty coordinator. Not open to students with credit for 710.			
5111 Palliative and End of Life Care	U G	2	6111 Diabetes Education and Management in the New Millennium	G	2	
Foundation for palliative and hospice care through exploration of individual, family and loved ones' needs at the end of life.						
Prereq: Sr or Grad standing in Nursing, or permission of instructor. Not open to students with credit for 607.			Complexity of the pathophysiology of diabetes, as well as, latest concepts, trends and developments in diabetes management for nurses.			
5193 Individual Clinical Studies in Nursing	U G	0 - 5	Prereq: Grad standing or permission of instructor.			
Students will gain knowledge within the area of expertise of a nursing faculty mentor. The course will provide individualized learning opportunities.						
Prereq: Enrollment in Nursing major, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions. This course is graded S/U.			6114 Strategies for Personal Health	G	1	
5194 Group Studies in Nursing	U G	1 - 4	An overview of four dimensions of personal energy (physical, emotional, mental and spiritual) in relation to personal health. Emphasizes development and evaluation of an evidence-based, individually-tailored, and preferred personal health plan.			
Group studies of special problems in Nursing.						
Prereq: Sr or grad standing in Nursing. Repeatable to a maximum of 10 cr hrs or 3 completions.			Prereq: Grad standing. This course is graded S/U.			
5300 Nursing Care of the High-Risk Neonate	U G	2	6240S Concepts in Community Health Nursing	G	4	
Introduction to the role of the neonatal nurse in the provision of comprehensive nursing care of the high-risk neonate.						
Prereq: 2450 (385.03) or 7450 (704), or permission of instructor. Not open to students with credit for 657.			Study of community health nursing theory and principles applied to the nursing care of individuals, families, groups, communities, and populations.			
5321 Cancer Survivorship Care	U G	2	Prereq: 6270 and 7450. Not open to students with credit for 634.			
In-depth examination of the short-term and long-term biopsychosocial needs of cancer survivors, including cancer survivorship care planning and cancer survivorship care.						
Prereq: Sr or Grad standing in Nursing, or permission of instructor.			6260 Nursing Care of Children and Their Families	G	4	
5322 Contemporary Issues in Oncology	U G	2	Nursing knowledge essential to caring for children and families with emphasis on health promotion, risk assessment, disease prevention, and common acute and chronic health problems.			
Concepts related to cancer prevention, detection, diagnosis, treatment, symptom management, survivorship care planning, rehabilitation, surveillance, and palliative care in the context of personalized health care.						
Prereq: Sr or Grad standing in Nursing, or permission of instructor.			Prereq: 6270, 6420, and 7450.			
5410 Health Assessment Review	U G	2	6270 Nursing Care of Adults and Older Adults I	G	7	
Review of basic health assessment skills with emphasis on health history taking, physical examination techniques and recording concise summaries.						
Prereq: Permission of instructor. Not open to students with credit for 605.			Nursing knowledge essential to caring for adults and older adults, with emphasis on health promotion, risk assessment, disease prevention, and health problems.			
5430 Interdisciplinary Healthcare in the Global Community	U G	2	Prereq: 6410 and 6100. Concur: 7450. Not open to students with credit for 622.			
Development of strategies for culturally competent interdisciplinary healthcare in selected world communities.						
Prereq: 3430 (440) or 6430 (640), or permission of instructor. Not open to students with credit for 609.			6271 Nursing Care of Adults and Older Adults II	G	8	
6330 Advanced Pediatric Physical Assessment for the School Nurse	G	2	Nursing knowledge essential to caring for adults and older adults with emphasis on management of acutely ill patients with complex health problems.			
Application of principles from growth and development, anatomy, physiology, pathophysiology, clinical decision-making and relevant health assessment data to school nurses in the care of the school age child.						
Prereq: Enrolled in the College of Nursing, the College of Education School Nurse Program, or permission of instructor. Not open to students with credit for 723.			Prereq: 6270, 6420, and 7450. Not open to students with credit for 634.			
6340 Psychiatric and Mental Health Nursing	G	4	6280 Nursing Care of Women and their Families during Reproductive Transitions	G	4	
Nursing knowledge applied to the promotion of mental health and to the recovery of individuals with psychiatric diagnoses.						
Prereq: 6270 and 7450. Not open to students with credit for 635.			Prereq: 6270, 6420, and 7450. Not open to students with credit for 623.			

6410	Introduction to Health Assessment	G	3
Introduction to the foundational health assessment concepts of Nursing and the assessment skills required in the provision of Nursing care.			
Prereq: Enrollment in the graduate entry program. Not open to students with credit for 611.			
6420	A Nursing Perspective: Life Span Development of Individuals within a Family Context	G	3
Study of growth and development of individuals within a family context from conception to death with an emphasis on assessment and interventions utilized in Nursing practice.			
Prereq: Enrollment in the graduate entry program. Not open to students with credit for 637.			
6430	Cultural Competence in Health Care: US and Global Contexts	G	3
Introduction to concepts and techniques for the provision of culturally competent care within the U.S. and across global contexts.			
Prereq: Enrollment in the Grad entry option of the M.S. in Nursing program, Obesity Sciences Graduate Interdisciplinary Specialization, or permission of instructor. Not open to students with credit for 640.			
6460	Chronic Care Counseling in Spanish for the Latino Patient	G	3
Introduction to the linguistic forms and pragmatic features of Spanish discourse about health and wellness. Theoretical and humanistic underpinnings of patient-centered communication in relation to improving health and wellness outcomes. Emphasis on clinical conversation techniques, practice with standardized patients, and facets of Latino culture relevant to diabetes and chronic care.			
Prereq: 7410, Grad standing in Nursing, Registered Nurse Licensure, and moderate level Spanish proficiency by testing and interview with instructors; or permission of instructor for students enrolled in the RN-to-BSN program. This course is graded S/U.			
6480	Quality and Safety Initiatives in Clinical Practice	G	1
A seminar course designed to promote awareness and develop problem-solving leadership skills in creating and sustaining healthy work environments.			
Concur: 6271. Not open to students with credit for 633.01.			
7110	School Nurse Wellness Coordinator Practice	G	3
School nurse wellness coordinator field experience in a school setting applying the roles and responsibilities of a school nurse wellness coordinator.			
Prereq: Enrollment in Category 3 School Nurse Wellness Coordinator Certificate program, or permission of instructor.			
7193	Individual Studies in Nursing	G	1 - 4
Students will gain skills and knowledge within a focused area of study within the area of expertise of a nursing faculty mentor. The course will expose students to novel scholarly activities and provide individualized learning opportunities.			
Prereq: Grad standing in Nursing. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.			
7200	Adult Acute Care Nurse Practitioner Skills	G	2
Development of essential skills for assessment, monitoring and management of acutely and critically ill adults.			
Prereq: 7450 (704) and 7410 (705). Not open to students with credit for 835.			
7208.01	Adult Acute Care Nurse Practitioner Practicum I	G	1 - 10
Designed to build on major components critical to the knowledge of diagnosis and management of pathologies in acutely ill adults. Focus is centered on the acute care nurse practitioner as an initial care provider for patients with acute illnesses.			
Prereq: 7450 (704), 7410 (705), 7470 (706), and 7200 (835). Not open to students with credit for 859.			
7208.02	Adult Acute Care Nurse Practitioner Practicum II	G	1 - 10
Application of principles of advanced practice Nursing applied to Adult Critical Care as a population focus. Experiences concentrate on clinical decision-making in an interdisciplinary environment.			
Prereq: 7208.01. Not open to students with credit for 859.			
7218.01	Advanced Nursing Practice in Pediatric Acute Care I	G	1 - 10
Application of knowledge, research findings, advanced skills and interventions, including pharmacotherapy, in the management of children with acute and critical conditions affecting circulatory and respiratory function.			
Prereq: 7338.01.			
7218.02	Advanced Nursing Practice in Pediatric Acute Care II	G	1 - 10
Application of knowledge, research findings, skills and interventions in the advanced nursing care of acutely and critically ill children.			
Prereq: 7218.01.			
7228.01	Advanced Practice Adult Nursing Clinical Practicum I	G	1 - 10
Application of advanced practice nursing theories, research findings, skills and interventions, including pharmacological management to the care of adults, focusing on health promotion needs and the most commonly seen diagnoses in primary care.			
Prereq: 7410 (705) and 7470 (706). Not open to students with credit for 859.			
7228.02	Advanced Practice Adult Nursing Clinical Practicum II	G	1 - 10
Application of advanced practice nursing theories, research findings, skills and interventions, including pharmacological management to the primary care of adults and older adults with acute and chronic health problems.			
Prereq: 7228.01 (859), 7410 (705), and 7470 (706). Not open to students with credit for 859.			
7230	Clinical Nurse Leader (CNL) Roles and Responsibilities	G	2
Introduction to the roles and responsibilities of the Clinical Nurse Leader (CNL), with an emphasis on the value-added aspects of the CNL role for patient care, outcomes, and healthcare environments.			
Prereq: Enrollment in the Clinical Nurse Leader (CNL) specialty track of the M.S. in Nursing program, or permission of instructor.			
7231	Pharmacology for the Clinical Nurse Leader	G	3
Emphasis on advanced knowledge in pharmacology in relation to the Clinical Nurse Leader (CNL) role across healthcare settings. The role of the CNL in patient teaching for safe and effective medication administration and assessment of medication management in chronic disease is emphasized.			
Prereq: Undergraduate pharmacology course or equiv, and enrollment in the Clinical Nurse Leader (CNL) specialty track of the M.S. in Nursing program; or permission of instructor.			
7238.01	Introduction to Clinical Nurse Leader Practice	G	1 - 5
Introduction to the role, responsibilities, practice, and skills of the Clinical Nurse Leader.			
Prereq: Grad standing in Nursing, and Clinical Nurse Leader specialty. Not open to students with credit for 733.			
7238.02	Transition to Clinical Nurse Leader Practice	G	1 - 10
Intensive clinical experience to apply theories and engage fully in the role of the Clinical Nurse Leader (CNL).			
Prereq: 7238.01 (733). Not open to students with credit for 833.			
7241	Current Issues in Public Health Nursing	G	2
Overview of the public health system and current topics relevant to advanced public health Nursing practice.			
Prereq: Completion of a pre-licensure/undergraduate community health nursing course, and admission to the Nursing and Health Systems Management specialty; or permission of instructor.			
7258.01	Foundational Knowledge for Nursing and Health Systems Management	G	1 - 10
Study of the theoretical knowledge that provides the foundation for Nursing leadership in program and health systems management across the continuum of care.			
Prereq: 7403 and admission to the Nursing and Health Systems Management specialty. Not open to students with credit for 807, 808, or 809.			
7258.02	Skills for Nursing and Health Systems Management	G	1 - 10
Study of the skills, strategies, and techniques necessary for program and health systems Nursing management across the continuum of care.			
Prereq: 7258.01. Not open to students with credit for 807, 808, or 809.			
7260	Concepts and Issues in Advanced Family Nursing	G	2
Issues of health care for family units; development of personalized health care strategies, culturally appropriate plans, examination of sociocultural policies affecting family health.			
Prereq: Grad standing in Nursing, or enrollment in the Specialization in Pediatric Occupational Therapy. Not open to students with credit for 721.			
7268.01	Advanced Practice Family Nurse Practitioner Clinical Practicum I	G	10
Focus on primary healthcare of individuals and families across the lifespan. Emphasis on knowledge and skills for patient-centered evidence-based practice, clinical reasoning/judgment for advanced practice nursing, health and wellness, and common pathological conditions.			
Prereq: 7260, 7403, 7410, 7450, 7470, 7483, 7491, 7500, 7780, and admission to the Family Nurse Practitioner specialty track of the M.S. in Nursing program; or permission of instructor.			
7268.02	Advanced Practice Family Nurse Practitioner Clinical Practicum II	G	5 - 11
Advanced practice nursing applied to family as population focus. Emphasis on care of acute conditions; development of skills in clinical acumen and collaboration.			
Prereq: 7268.01. Not open to students with credit for 859.			
7268.03	Advanced Practice Family Nurse Practitioner Clinical Practicum III	G	4 - 12
Emphasis on care of families with chronic illnesses across the life span, skills in differential diagnosis, reflective practice, and evidence based strategies.			
Prereq: 7268.02. Not open to students with credit for 859.			
7280	Conceptual Frameworks for Nurse-Midwifery	G	2
Theoretical, structural, historical, and political/legal foundations of nurse-midwifery in the United States and internationally.			
Prereq: Enrollment in the Nurse-Midwifery specialty. Not open to students with credit for 724.			
7281	Advanced Reproductive Dynamics	G	3
Principles of reproductive anatomy and physiology including puberty, genetics, pregnancy, embryonic/fetal development, parturition, puerperium, lactation, and menopause in relationship to advanced practice nursing care.			
Prereq: Enrollment in the Nurse-Midwifery or Women's Health specialty track. Not open to students with credit for 722.			
7282	Labor and Birth Clinical Immersion	G	2
Provides orientation to intrapartum care and the role of the health care team for specialty students without prior experience in this clinical area.			
Prereq: Enrollment in the Nurse-Midwifery, or Dual Nurse-Midwifery and Women's Health specialty; or permission of the course head.			

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7288.01	Advanced Practice Nursing: Nurse-Midwifery Clinical Practicum I	G	1 - 8	
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care.				Prereq: 7281. Not open to students with credit for 859.
7288.02	Advanced Practice Nursing: Nurse-Midwifery Clinical Practicum II	G	1 - 10	
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of nurse-midwifery care to women and their families.				Prereq: 7288.01. Not open to students with credit for 859.
7288.03	Advanced Practice Nursing: Nurse-Midwifery Clinical Practicum III	G	1 - 10	
Application of theories, research findings, complex skills, and interventions including pharmacological management, during the provision of nurse-midwifery care to women and their families.				Prereq: 7288.02. Not open to students with credit for 859.
7288.04	Advanced Practice Nursing: Nurse-Midwifery Clinical Practicum IV	G	1 - 10	
Integration of theories, research findings, skills, and interventions including pharmacological management, during the provision of nurse-midwifery care to women and their families.				Prereq: 7288.03. Not open to students with credit for 859.
7298.01	Advanced Practice Nursing: Women's Health Clinical Practicum I	G	1 - 8	
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care.				Prereq: 7281.
7298.02	Advanced Practice Nursing: Women's Health Clinical Practicum II	G	1 - 9	
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care to women and their families.				Prereq: 7298.01.
7298.03	Advanced Practice Nursing: Women's Health Clinical Practicum III	G	1 - 9	
Integration of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care to women and their families.				Prereq: 7298.02.
7299.01	Advanced Practice Nursing: Dual Nurse-Midwifery & Women's Health Clinical Practicum I	G	1 - 8	
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care.				Prereq: 7281. Not open to students with credit for 859.
7299.02	Advanced Practice Nursing: Dual Nurse-Midwifery & Women's Health Clinical Practicum II	G	1 - 11	
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing/nurse-midwifery care to women and their families.				Prereq: 7299.01. Not open to students with credit for 859.
7299.03	Advanced Practice Nursing: Dual Nurse-Midwifery & Women's Health Clinical Practicum III	G	1 - 11	
Application of theories, research findings, complex skills, and interventions including pharmacological management, during the provision of advanced practice nursing/nurse-midwifery care to women and their families.				Prereq: 7299.02. Not open to students with credit for 859.
7299.04	Advanced Practice Nursing: Dual Nurse-Midwifery & Women's Health Clinical Practicum IV	G	1 - 11	
Integration of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing/nurse-midwifery care to women and their families.				Prereq: 7299.03. Not open to students with credit for 859.
7300	Developmental Physiology and Pathophysiology of the High-Risk Neonate I	G	5	
Biological basis for case management of the high-risk neonate incorporating analysis and synthesis of principles of embryology, developmental physiology, and pathophysiology.				Prereq: Enrollment in the Neonatal NP specialty. Not open to students with credit for 727.
7301	Developmental Physiology and Pathophysiology of the High-Risk Neonate II	G	3	
Biological basis for case management of the high-risk neonate incorporating analysis and synthesis of principles of embryology, developmental physiology, and pathophysiology.				Prereq: 7300. Not open to students with credit for 728.
7302	Advanced Health Assessment of the Neonate	G	3	
Development of advanced health assessment and psychomotor skills to comprehensively assess and manage high-risk neonates.				Prereq: Enrollment in the Neonatal NP or CNS specialties. Grad Entry students must have successfully completed all pre-licensure coursework (6100, 6240S, 6260, 6270, 6271, 6340, 6410, 6420, 6430, and 6480). Not open to students with credit for 729.
7303	Advanced Newborn/Infant Pharmacology	G	4	
Pharmacotherapeutic principles applied to the high-risk neonate/infant with an emphasis on pharmacokinetics and pharmacodynamics when applied to neonatal physiology.				Prereq: Enrollment in the Neonatal NP specialty.
7304	Developmental Care of the High-Risk Neonate and Family	G	2	
Examination of concepts and research that impact the developmental trajectory of the high-risk neonate and family.				Prereq: Enrollment in the Neonatal NP or CNS specialties, or enrollment in the Specialization in Pediatric Occupational Therapy. Not open to students with credit for 709.
7308.01	Advanced Practice Nursing: Care of the High-Risk Neonate I	G	1 - 7	
Application of theories, research findings, and interventions for advanced practice nurses in the care of neonates and their families, with a focus on high-risk deliveries.				Prereq: 7301 and 7302. Not open to students with credit for 859.
7308.02	Advanced Practice Nursing: Care of the High-Risk Neonate II	G	1 - 9	
Application of theories, research findings, and interventions for advanced practice nurses managing care in the neonatal intensive care unit.				Prereq: 7308.01 and 7303. Not open to students with credit for 859.
7308.03	Advanced Practice Nursing: Care of the High-Risk Neonate III	G	1 - 9	
Application of theories, research findings, and interventions for advanced practice nurses in the care of high-risk neonate and their families in a variety of settings.				Prereq: 7308.02. Not open to students with credit for 859.
7310	Foundations for Making the Link between Practice, Theory and Research	G	3	
Theory and practice with identifying clinical research questions, appraising evidence, applying theory to research, and translation of theory and research based evidence to clinical practice.				Prereq: Grad standing in Nursing and the Nursing Science specialty. Not open to students with credit for 760.
7318.01	Neonatal Clinical Nurse Specialist Practicum I	G	7	
First of two practicums to apply advanced practice nursing theories, research findings, skills and interventions, including pharmacological management in the care of neonates by clinical nurse specialists across a variety of care settings.				Prereq: 7300, 7301, 7302, 7303, and enrollment in the Neonatal CNS specialty.
7318.02	Neonatal Clinical Nurse Specialist Practicum II	G	7	
Second of two practicums advanced practice nursing theories, research findings, skills and interventions, including pharmacological management in the care of neonates by clinical nurse specialists across a variety of care settings.				Prereq: 7300, 7301, 7302, 7303, 7318.01 and enrollment in the Neonatal CNS specialty.
7330	Advanced Pediatric Health Assessment	G	4	
Advanced knowledge and skills in the health assessment of children birth through young adulthood with an emphasis on sophisticated clinical reasoning.				Prereq: Enrollment in Pediatric NP Primary or Acute Care Specialty. Grad Entry students must have successfully completed all pre-licensure coursework (6100, 6240S, 6260, 6270, 6271, 6340, 6410, 6420, 6430, and 6480).
7338.01	Advanced Nursing Practice in Pediatric Primary Care I	G	3 - 8	
Application of theories, research findings, skills, and interventions including pharmacological management to advanced practice nursing in pediatric health promotion and preventive care.				Prereq: 7330. Not open to students with credit for 859.
7338.02	Advanced Nursing Practice in Pediatric Primary Care II	G	3 - 8	
Application of theories, research findings, skills, and interventions including pharmacological management to advanced practice nursing in pediatric health promotion and preventive care.				Prereq: 7338.01. Not open to students with credit for 859.
7338.03	Advanced Nursing Practice in Pediatric Primary Care III	G	3 - 8	
Application of theories, research findings, skills, and interventions including pharmacological management to advanced practice nursing in the care of children with common chronic conditions.				Prereq: 7338.02. Not open to students with credit for 859.
7340	Neuroscience Principles and Concepts Relevant to Psychiatric and Mental Health	G	3	
Neurobiological bases of brain-mind-behavior relationships in mental health and illness, including chemical dependence. The promotion, maintenance, and restoration of central nervous system homeostasis will be emphasized.				Prereq: Grad standing in Nursing and the Psychiatric Mental Health Nursing specialty. Not open to students with credit for 740.
7341	Advanced Psychiatric and Mental Health Nursing: Therapies across the Lifespan	G	4	
Advanced nursing clinical therapeutic interventions with persons across the lifespan diagnosed with mental illness and/or substance abuse.				Prereq: Grad standing and enrollment in the Psychiatric Mental Health Nursing specialty. Not open to students with credit for 745 or 777.

7342 Motivational Interviewing G 2

Critical analysis of theoretical and research findings involved in the conduct of motivational interviewing to create behavior change and improve health outcomes.
Prereq: Grad standing in Nursing.

7348.01 Advanced Practice Psychiatric and Mental Health Nursing Clinical Practicum I G 1 - 12

Application of advanced practice psychiatric and mental health nursing biopsychosocial interventions with individuals experiencing mental illness and chemical dependence.
Prereq: 7340 (740) and 7341 (745 and 777). Not open to students with credit for 859.

7348.02 Advanced Practice Psychiatric and Mental Health Nursing Clinical Practicum II G 1 - 12

Application of advanced practice psychiatric and mental health. Nursing biopsychosocial interventions with individuals experiencing comorbid mental illnesses and/or chemical dependence disorders.
Prereq: 7348.01. Not open to students with credit for 859.

7378 Advanced Nursing Practice Adult Clinical Nurse Specialist Clinical Practicum G 1 - 10

Application of theories, research findings, skills and interventions, including pharmacologic, for advanced practice in the care of adults with all types of acute and chronic health problems.
Prereq: 7228.01. Not open to students with credit for 859.

7378.01 Adult Gerontology Clinical Nurse Specialist Practicum I G 10

Application of advanced practice nursing theories, research findings, skills and interventions, including pharmacological management to the management of adults and older adults with acute and chronic health problems.
Prereq: 7410, 7450, and 7470.

7378.02 Adult Gerontology Clinical Nurse Specialist Practicum II G 10

Application of advanced practice nursing theories, research findings, skills and interventions, including pharmacological management of adults and older adults with acute and chronic health problems.
Prereq: 7410, 7450, 7470, and 7378.01.

7400 Leadership in Advanced Nursing Care G 3

Analysis of organizational and leadership strategies and skills essential in the delivery of high quality patient care in diverse settings.
Prereq: Grad standing or permission of instructor.

7401 Clinical Management in Primary Care Settings G 2

Theories, concepts, and issues related to the implementation of leadership, management, strategic, operational, clinical, and administrative concepts necessary in primary care settings.
Prereq: 7403, or permission of instructor. Not open to students with credit for 608.

7402 Economic Evaluation of Healthcare Interventions G 3

Introduction to economic evaluation of healthcare interventions and services, including evaluating costs and health outcomes, using results to inform resource allocation, interpretation and evaluation of economic evaluations in the literature, and decision analysis in healthcare.
Prereq: Grad standing.

7403 Innovation Leadership in Advanced Nursing Practice G 3

Analysis of organizational leadership and ethical essentials necessary to deliver high quality patient care in diverse settings.
Prereq: Enrollment in Grad Nursing.

7404 Project Management for Healthcare and Clinical Research G 3

Principles of project management and strategic planning in healthcare, clinical research, and regulatory settings.
Prereq: 7782, or permission of instructor.

7405 Clinical Research Study and Site Management G 3

Fundamental principles of clinical research operations from study site selection to study closure from the perspective of sponsors and clinical research sites including an introduction to database design, management, quality assurance, and reporting for site and sponsor operations.
Prereq: 7770 or Phr 7770; or permission of instructor.

7410 Advanced Health Assessment G 3 - 4

Development of advanced health assessment skills. Emphasis on acquisition of pertinent assessment data across the life span for advanced nursing care for multiple specialties.
Prereq: 7450. Grad Entry students must have successfully completed all pre-licensure coursework (6100, 6240S, 6260, 6270, 6271, 6340, 6410, 6420, 6430, and 6480). Not open to students with credit for 705.

7440 Scientific Thought in Nursing G 2

Study of the nature of scientific thought, critical thinking, and moral reasoning in the discipline of Nursing.
Prereq: Grad standing in Nursing or permission of instructor. Not open to students with credit for 601.

7450 Pathophysiology of Altered Health States G 5

Analysis of theories and research regarding alterations of health states across the life span with an emphasis on pathophysiological processes.
Prereq: Grad standing in Nursing or permission of instructor. Not open to students with credit for 703 or 704.

7460 Regulatory Strategy, Writing, and Leadership G 3

Explores regulatory strategy in new medical product development and the roles of regulatory professionals. Scholarly and technical writing skills for regulatory professionals for new product submissions and Food and Drug Administration (FDA) Advisory Panels. Principles of strategic planning, leadership, communication, and team building.
Prereq: 7770, Phr 7770, or permission of instructor. Cross-listed in Phr.

7470 Advanced Pharmacology in Nursing G 4

Pharmacokinetic principles and clinical application and principles of the use of drugs and therapeutic devices in the prevention of illness and maintenance of health. Meets criteria for APN's prescribing in Ohio.
Prereq: 7450. Not open to students with credit for 706. Repeatable to a maximum of 12 cr hrs or 3 completions.

7480 Quality Improvement in Advanced Nursing Care G 2

Advanced concepts of collaboration, design, leadership, implementation and evaluation of quality improvement initiatives in health care. This course has been peer-reviewed and is officially recognized by Quality Matters as meeting the standards of a quality online course. For more information, visit www.qmprogram.org.
Prereq: Grad standing in Nursing or permission of instructor.

7481 Data Management and Informatics in Clinical Research G 3

Introduction to fundamental principles of clinical research data management and informatics to include the acquisition and management of data during clinical research studies, including source data, data entry, data quality assurance, reporting, and security.
Prereq: 7782, or permission of instructor.

7482 Principles of Quality Management for Medical Product Development G 3

Concepts and application of total quality management for federal regulation of medical product development including drugs and medical devices.
Prereq: 7770, Phr 7770, or permission of Instructor. Cross-listed in Phr.

7483 Quality Improvement and Informatics G 3

Explores advanced concepts of collaboration, design, leadership, implementation and evaluation of quality improvement initiatives in health care utilizing information technology strategies.
Prereq: Enrollment in Grad Nursing.

7490 Health Promotion and Disease Prevention across the Life Span G 2

Analyze strategies to encourage change in both individual's and population's health behaviors that influence risk reduction in multiple settings.
Prereq: Grad standing in Nursing or permission of instructor. Not open to students with credit for 713.

7491 Health Promotion and Disease Prevention across the Life Span G 3

Analyze strategies to encourage change in both individual's and population's health behaviors that influence risk reduction in multiple settings. Develop educational strategies utilizing advanced critical thinking.
Prereq: Enrollment in Grad Nursing or Obesity Sciences Graduate Interdisciplinary Specialization.

7495 Community Health Education G 1

Students will be assigned to a community clinic or agency to assist with improving the health of underserved populations in Central Ohio. Small groups of students will develop, implement, and evaluate a community health education program.
Prereq: Grad standing in Nursing, and permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

7500 Health Policy and Advocacy G 2

Analysis of the U.S. health care delivery system and the policy making process, with an emphasis on the social, political and economic factors affecting the delivery of Nursing services.
Prereq: Grad standing in Nursing, or permission of instructor. Not open to students with credit for 603.

7520 Graduate Nursing Informatics G 2

Addresses applications of healthcare information and communication technology for graduate Nursing students to identify and develop strategies to improve patient care.
Prereq: Grad standing in Nursing or permission of instructor.

7530 Instructional Strategies in Clinical Teaching G 3

The primary focus of this course is the differentiation of best pedagogical practices for effective teaching in clinical settings.
Prereq: Grad standing in Nursing, or permission of instructor.

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7533 Teaching Tech: Classroom Technologies	G	2	7718 Interdisciplinary Perspective on Autism Spectrum Disorders	G	3
Explore theory behind selection and use of education technology to engage students in the classroom. Theory will be enhanced with practice and application. Basic understanding of education technology and teaching theory required.			Teaches the analytical skills necessary to comprehend and formulate an interdisciplinary framework relating to major scientific and theoretical perspectives in autism spectrum disorders.		
Prereq: Grad standing, or permission of instructor.			Prereq: permission of instructor. Not open to students with credit for 717.01 or 717.02. Cross-listed in EduSt, HthRhSc, Psych, SocWork, and SphHrg.		
7534 Teaching Tech: ePortfolios	G	1	7727 Assuring Quality in Online Course Design: Moving from Face to Face to Online	G	3
The theory behind use and selection of ePortfolio technology will be enhanced with hands-on practice and application of production software.			In this fully online course learners will use the quality matters rubric and supporting documents to inform the design and implementation of instruction specifically for an online teaching/learning environment. The learner will develop and submit for peer review an online course or portion of an online course. Learners will also serve as a peer reviewer using the quality matters standards.		
Prereq: Grad standing, or permission of instructor.			Cross-listed in ESETec.		
7536 Principles of Instructional Design for Nurses	G	3	7770 Fundamentals of Medical Product Development and Regulation	G	3
Theoretical and practical approaches to creation of learning experiences for nursing and health education with an emphasis on backward design and evidence-based instructional design strategies.			Function of clinical research in medical product development and the regulatory process of new medical products. Laws and regulations concerning the development, testing, commercialization, and total product life cycle for medical products. Regulations governing the conduct of clinical research, including study sponsors, investigators, and Institutional Review Boards.		
Prereq: Grad standing in Nursing; or permission of instructor.			Prereq: Admission to the Master's program in Applied Clinical and Preclinical Research, or permission of instructor. Cross-listed in Phr.		
7537 Assessment and Evaluation in Nursing Education	G	3	7780 Evidence Based Nursing Scholarship	G	3
Principles and processes involved in assessment and evaluation of student learning, courses, curricula, program outcomes, and teaching practices.			Introduction to the process for evidence based practice. Includes clinical question generation, literature search methods, critique of research methods and appropriate statistical analysis in published research evidence, and synthesis of evidence related to clinical nursing problems.		
Prereq: Grad standing in Nursing, or permission of instructor.			Prereq: Grad standing in Nursing, or permission of instructor. Not open to students with credit for 702.		
7538 Teaching in Nursing	G	3	7781 Responsible Conduct of Research	G	3
Application of best pedagogical practices in selected Nursing education experiences.			Concepts and policies for the responsible conduct of research (RCOR), Institutional Review Boards and dissemination of findings.		
Prereq: 7530, 7536, and 7537; or permission of instructor.			Prereq: Grad standing.		
7560 Clinical Trials I: Design and Regulation	G	3	7782 Research Design and Methods for Clinical and Preclinical Research	G	3
This course provides a fundamental overview of clinical trial design, methods, and regulation with an emphasis on medical product development, clinical trial protocols, preclinical research requirements, and the appraisal of published clinical trials.			Study of research design and methods used in clinical and preclinical research. Measurement issues; bias and confounding; statistical considerations, evaluation of published clinical and preclinical research designs, and protocol and proposal development.		
Prereq: Admission to the MS Pharmacology program, or permission of instructor. Not open to students with credit for Nursing or Phr 7770. Cross-listed in BioPhrm and Phr.			Prereq: Admission to Master's program in Applied Clinical and Preclinical Research, or permission of instructor. Cross-listed in Phr.		
7561 Clinical Trials II: Site Management and Study Leadership	G	3	8193 Individual Studies in Nursing	G	1 - 5
This course provides a fundamental overview of best practices of clinical trial study and site management, including an emphasis on data, safety, and quality management, and study team leadership.			Students will gain skills and knowledge within a focused area of study within the area of expertise of a nursing faculty mentor. The course will expose students to novel scholarly activities and provide individualized learning opportunities.		
Prereq: 7560, BioPhrm 7560, or Phr 7560, or permission of instructor. Not open to students with credit for 5402 or Phr 5402. Cross-listed in BioPhrm and Phr.			Prereq: Enrollment in Nursing program and permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions. This course is graded S/U.		
7572 Global Regulation of Medical Products	G	3	8194 Group Studies in Nursing	G	0 - 5
Exploring legal issues related to clinical research and regulatory affairs. Examining the role of regulatory authorities, regulations and guidelines (US, EU and global) in new product development.			Group studies of special problems in nursing.		
Prereq: 7770, Phr 7770, or permission of instructor. Cross-listed in Phr.			Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions.		
7597 Clinical Research Management Capstone	G	1 - 12	8400 Leadership for Nurse Scientists	G	3
Capstone project or internship for students in the Clinical Research Management specialization of the MS Applied Clinical and Preclinical Research program. Culminating learning activity integrating core and specialization coursework. Capstone project or internship performed at an organization involved with clinical research administration with the oversight of a faculty advisor and site mentor.			Examine current professional issues facing the nurse scientist in academia, practice, and research.		
Prereq: Completion of all required clinical research management courses in the MS Applied Clinical and Preclinical Research program, or permission of instructor.			Prereq: Enrolled in PhD in Nursing program.		
7598 Regulatory Affairs Capstone	G	1 - 12	8420 Seminar in Life Course Health Development	G	1
Capstone project or internship for students in the Regulatory Affairs specialization of the MS Applied Clinical and Preclinical Research program. Culminating learning activity integrating core and specialization coursework. Capstone project or internship performed at an organization involved with the regulation of medical products with the oversight of a faculty advisor and a site mentor.			This seminar provides the foundations for the life course development framework, including a review of the theoretical models, the supporting evidence and critiques. Ethical considerations specific to the framework will be discussed throughout the seminar as well as the Maternal and Child Health Leadership competencies.		
Prereq: Enrollment in the Master's program in Applied Clinical and Preclinical Research, or permission of program director. Repeatable to a maximum of 12 cr hrs or 6 completions. Cross-listed in Phr.			Prereq: Appointment as T32 Fellow, or permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		
7599 Capstone in Applied Clinical and Preclinical Research	G	1 - 12	8440 Philosophy of Science and Development of Nursing Knowledge	G	3
Capstone project or practicum for students in the master's program in Applied Clinical and Preclinical Research. Culminating learning activity integrating core and specialization coursework. Capstone project or practicum performed at an organization involved with clinical or preclinical research with the oversight of a faculty advisor and site mentor.			Examines historical, philosophical, and theoretical basis for nursing science.		
Prereq: Enrollment in the master's program in Applied Clinical and Preclinical Research, or permission of the program director. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U. Cross-listed in BioPhrm and Phr.			Prereq: Enrollment in PhD program in Nursing.		
7717 Interdisciplinary Perspective on Developmental Disabilities	G	3	8441 Health Determinant Models for Nursing Science	G	3
Provides an introduction to the psychosocial, medical, and educational implications of developmental disabilities.			Integrates scientific approaches used to investigate, understand and improve health status within the context of Nursing Science.		
Prereq: permission of instructor. Not open to students with credit for 717.01 or 717.03. Cross-listed in EduSt, HthRhSc, Psych, SocWork, and SphHrg.			Prereq: 8440, or permission of instructor.		
			8460 Integrative Reviews in Nursing	G	3
			Foundation for conducting a systematic integrative review of nursing and health related research and dissemination of scientific writing.		
			Prereq: 8783.		

8461 Scientific Communication II	G 1	2780 Research for Evidence Based Nursing Practice	U 3
Preparation and review of research funding applications; matching research ideas with funding sources.		An introduction to evidence based nursing practice and the research process.	
Prereq: 8460, or permission of instructor.		Prereq: Enrollment in the RN to BSN program. Not open to students with credit for 390.	
8462 Grant Writing for Nursing	G 3	3110 Health Assessment Across the Lifespan	U 3
Introduction to the principles and fundamentals of writing and critiquing research grant proposals in nursing science.		Development of health assessment across the lifespan.	
Prereq: 8440, 8460, and 8783.		Prereq: Enrollment in the RN-BSN program, or permission of instructor.	
8510 Ethics in Healthcare Practice, Research and Policy	G 2	3111 Palliative and End of Life Care	U 3
Study of the central ethical dilemmas facing Nursing in health care practice, research, and policy.		Foundation for palliative care through exploration of individual, family, and loved ones' needs at the end of life.	
Prereq: Grad standing in Nursing or permission of instructor. Not open to students with credit for 755.		Prereq: Enrollment in the RN-BSN program, or permission of instructor.	
8780 Research Methods I	G 3	3112 Failure to Rescue in Nursing	U 3
Survey of quantitative design and measurement approaches relevant to nursing and health. Emphasis is placed on experimental designs and measurement in nursing and health research.		This course will explore the impact of failure to rescue on patient outcomes and provide evidence-based strategies and skills to prevent failure to rescue in healthcare.	
Prereq: Enrollment in PhD program in Nursing, or permission of instructor. Not open to students with credit for 902.01 or 912.		Prereq: Enrollment in the RN-BSN program, or permission of instructor.	
8783 Quantitative Design for Nursing Research	G 3	3430 Cultural Competence in Health Care: US and Global Contexts	U 2
Quantitative designs relevant to research in nursing and health. Emphasis is placed on experimental and quasi-experimental designs in nursing and health-related research.		Introduction to the concepts and techniques for the provision of culturally competent care within the U.S. and across global contexts.	
Prereq: Enrollment in PhD in Nursing program.		Prereq: Enrollment in the RN to BSN program. Not open to students with credit for 440.	
8784 Qualitative Design for Nursing Research	G 3	4240 Concepts in Community Health Nursing	U 4
Survey of qualitative and mixed methods approaches relevant to nursing and health. Emphasis is placed on observational research designs in nursing and health research.		Study of community health nursing theory and principles applied to the nursing care of individuals, families, groups, communities, and populations.	
Prereq: Enrolled in PhD in Nursing program.		Prereq: 2440, 4780, or Sociol 1101, or permission of instructor.	
8785 Measurement for Nursing and Health	G 3	4400 Evolving Concepts in Nursing Leadership and Management	U 3
Measurement theories and principles relevant to nursing science. Emphasis is on psychobiobehavioral measurement in nursing and health-related research.		Exploration of leadership and management concepts as applied to nursing practice and the health care environment.	
Prereq: 8440 and 8783.		Prereq: 4240, 4780, or permission of instructor. Not open to students with credit for Nursing 510.	
8786 Advanced Design for Nursing	G 3	4401 Practicum in Nursing Leadership and Management	U 2
Theoretically-derived approaches to advanced quantitative designs relevant to nursing and health. Emphasis is on multi-level, complex designs appropriate to individual and population health research.		Application of leadership and management concepts in a health care environment.	
Prereq: 8783, 8784, and 8785.		Concur: 4400. Not open to students with credit for Nursing 510.	
8890 Professional Issues in Nursing	G ½ - 2	4402 Evolving Concepts in Leadership and Management	U 5
Examine professional issues facing the nurse scientist in academia, practice, and research.		Exploration and application of leadership and management concepts as applied to nursing practice and the health care environment.	
Prereq: Enrollment in PhD program in Nursing; successful completion of the PhD Candidacy Examination. Repeatable to a maximum of 8 cr hrs or 10 completions. This course is graded S/U.		Prereq: 2440, and 4240, and 4780, and enrollment in the RN-to-BSN program.	
8891.01 Genetics and Genomics for Nursing Science	G 3	4520 Health Care Informatics	U 2
Examine emerging topics in genomics in the improvement of human health and quality of life in individuals, families, and communities from a nursing science perspective.		Examination of informatics in health care emphasizing clinical information systems and the use of the information technology (IT) applications to support nursing practice.	
Prereq: 8400, 8441, and 8783.		Prereq: Enrollment in the RN to BSN program. Not open to students with credit for Nursing 507.	
8891.02 Secondary Analysis of Complex Survey Data for Nursing and Health Research	G 3	4600 Interprofessional Concepts	U 2
Develop and conduct secondary analysis of complex survey data from a nursing science perspective. Emphasis on design, data management, and selection and use of different analytic tools commonly used in nursing science.		Examination of principles, competencies, and practices that support interprofessional collaboration, a culture of safety, and improve patient outcomes.	
Prereq: Course in multiple regression.		Prereq: Enrollment in the RN-BSN program.	
8980 Research Residency	G 1 - 10	4780 Evidence Based Practice: Transforming Healthcare	U 3
Doctoral research training through participation in on-going research of graduate faculty.		Examination of principles, competencies, practices, and skills that support implementation and sustainability of evidence-based practice in order to improve quality, safety and improve outcomes for patients, populations, providers, organizations, and communities across the globe.	
Prereq: 8440, 8441, 8460, 8783, and 8784. Repeatable to a maximum of 20 cr hrs or 4 completions. This course is progress graded (S/U).		Prereq: Enrollment in RN to BSN program, or permission of instructor.	
8999 Dissertation	G 1 - 10		
Dissertation research involving the generation of new knowledge that will contribute to nursing science.			
Prereq: Completion of all required courses and candidacy examination. Repeatable to a maximum of 40 cr hrs or 4 completions. This course is graded S/U.			
Nursing Advancement			
2193 Individual Studies in Nursing Advancement	U 1 - 4		
Student will gain knowledge and skills within the area of expertise of a nursing faculty mentor. The course will provide individualized learning opportunities.		8193 Individual Studies	G 1 - 6
Prereq: Enrollment in the RN-BSN program. Repeatable to a maximum of 20 cr hrs or 5 completions.		Advanced individual studies in selected areas for the DNP student.	
2440 Foundations and Contemporary Issues for Registered Nurses	U 3	Prereq: Admission to the DNP program, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.	
Provides the framework for exploration of professional issues in contemporary nursing and health care for nurses pursuing a baccalaureate degree.		8402 Innovation and Leadership Development for the DNP Nurse	G 2
Prereq: Enrollment in the RN to BSN program. Not open to students with credit for Nursing 302.		Examination of leadership development to maximize innovation and positive organizational impact with an exploration of own leadership development.	
		Prereq: Enrollment in DNP program, or permission of instructor.	
		8403 Science of Practice Innovation	G 2
		Scientific underpinnings for analyzing clinical situations in conjunction with appraising data, theories and concepts that guide nursing practice at the clinical doctoral level.	
		Prereq: Enrollment in DNP program, or permission of instructor.	
		8404 Nurse Executive Leadership	G 2
		Analysis of the role of the DNP nurse executive within complex healthcare systems.	
		Prereq: 8403.	

342 Nursing Practice

8480	Quality Improvement for the Doctor of Nursing Practice	G	2
Advanced concepts in collaboration, design, and leadership as they relate to the Prereq: Enrollment in DNP program, or permission of instructor.			
8490	Health Promotion in the Age of Personalized Health Care	G	2
Critical analysis of population-based factors that impact personal health and care including the social determinants of health contributing to health disparities, their synthesis with health behavior theories, and the evidence-based strategies to change behavior and improve outcomes. Prereq: Enrollment in the DNP program, or permission of instructor. Not open to students with credit for NursPrct 913.			
8500	Nursing Policy for Doctoral Nursing Practice	G	2
Principles of policy-making at the institutional, local, state, and federal levels to influence policy change affecting health care. Prereq: Enrollment in the DNP program, or permission of instructor. Not open to students with credit for NursPrct 940.03.			
8600	Organizational Culture	G	1
Analysis of complex culture in health care and the impact on organizational structure, relationships, evaluation, and outcomes. Prereq: 8402, and enrollment in DNP program; or permission of instructor.			
8610	Informatics for Leadership in Health and Healthcare	G	2
Health informatics, the evaluation of electronic health information resources and patient care technology, and application in DNP practice. Related policy, ethical, privacy, and disparity concerns related to access and use of healthcare data.. Prereq: Enrollment in DNP program, or permission of instructor.			
8780	Clinical Effectiveness and Translation in Clinical Science	G	3
Theoretical underpinnings of nursing knowledge and critical appraisal of clinical relevant research related to clinical effectiveness and translational science concepts. Prereq: Admission to the DNP program, or permission of instructor. Not open to students with credit for NursPrct 951 or 953.			
8781	Methods and Measurement in Clinical Practice Scholarship	G	2
Concepts and principles of practice scholarship methods and measurement for doctoral level nursing practice. Prereq: Enrollment in DNP program, or permission of instructor.			
8782	Foundations of Evidence-Based Practice (EBP)	G	2
Examination of the development and impact of evidence-based practice on health outcomes and the roles of the DNP in integrating evidence into practice. Prereq: Enrollment in the DNP program, or permission of instructor.			
8783	Implementing, Facilitating, and Sustaining EBP	G	2
Application of EBP principles and the change process to implement, facilitate, evaluate, and sustain evidence-based-practice changes to improve healthcare. Prereq: 8781 and 8782.			
8784	Disseminating Evidence to Advance Best Practices, Policy, and Outcomes in EBP	G	2
Internalization of the roles and responsibilities of the DNP in EBP through dissemination of evidence. Prereq: 8783.			
8890	Doctor of Nursing Practice Professional Seminar	G	1
Development of scholarly writing and peer review skills in scholarly nursing practice. Prereq: Enrollment in DNP program, or permission of instructor.			
8896	Practice Inquiry I	G	2 - 3
Application of evidence-based practice (EBP) principles and the change process to implement, facilitate, evaluate, and sustain EBP changes to improve healthcare. Prereq: Enrollment in the Doctor of Nursing Practice program, or permission of instructor.			
8897	Practice Inquiry II	G	1 - 3
Examination of the roles and responsibilities of the DNP in use of EBP methods and dissemination of evidence to influence clinical practice change, building upon knowledge and skills in Practice Inquiry I (NursPrct 8896). Prereq: 8896, and enrollment in the DNP program, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.			
8898	DNP Clinical Immersion	G	5
Integration and synthesis of knowledge and practice experiences designed to achieve essential and specialty components of the DNP role. Prereq: Successful completion of DNP Professional Examination. Repeatable to a maximum of 10 cr hrs.			
8998	DNP Final Document Project	G	1
Students complete a scholarly clinical project based on their individualized goals and interests. Prereq: Enrollment in the Doctor of Nursing Practice Program and completion of the DNP Professional Doctoral Examination. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.			

Occupational Therapy

6110	Occupational Therapy Foundations & Theory	G	2
Students gain understanding of the scope and domain of the profession, learn basic models of occupational performance and demonstrate professional behavior. The course focuses on developing the student's understanding of OT, professional practice frameworks and professional behaviors. Prereq: Enrollment in the Doctorate of Occupational Therapy program.			
6120	Occupation in Life and Community	G	2
Students will gain an understanding of humans as being occupationally oriented as described in Occupational Science. Everyday occupations and examples of adapted occupations when a person has disability are discussed. Students will also gain a beginning understanding of the effects of disease and disability on human occupation. Prereq: Enrollment in the Doctorate in Occupational Therapy program.			
6130	Occupational Therapy Therapeutic Use of Self and Groups	G	3
Students learn the scope of domain of the Occupational Therapy profession, therapeutic interaction, professional behaviors, and group process. Prereq: Grad standing in OccTher (OTD).			
6140	Task Analysis & Foundational Skills	G	3
This course is designed to provide the student with the knowledge and skills required in the analysis of occupation and occupational tasks. The course also provides a foundation for core clinical skills in the healthcare environment. Prereq: Grad standing in OccTher (OTD).			
6150	Neuroscience for Occupational Therapy	G	2
Covers the fundamentals of neuroanatomy and neurophysiology to enable students to interpret, evaluate and treat clients with neurological impairments. Students demonstrate competence in the integration of neuroscience principles. Prereq: Enrollment in the Doctorate in Occupational Therapy program.			
6189	Level I Fieldwork in Mental Health	G	1
Students spend 40 hours of time at mental health sites throughout the continuum of care. This course utilizes observation skills, assessment, and development of OT intervention plans for people with emotional, cognitive, and/or behavioral issues. Prereq: Enrollment in the Doctorate of Occupational Therapy program. This course is graded S/U.			
6210	Neuromusculoskeletal and Sensory Function	G	5
Students learn methods of occupational therapy assessment of and intervention to improve neuromusculoskeletal and sensory function in persons with impairment or disability. Prereq: Enrollment in the Doctorate in Occupational Therapy program, or permission of instructor.			
6220	Mental and Cognitive Function: Evaluation and Intervention	G	4
Students will learn methods of screening, assessment, and intervention that remediate or compensate for the occupational performance and participation barriers of individuals with cognitive and mental impairments. Prereq: Enrollment in the Doctorate in Occupational Therapy program.			
6230	Orthopedics in Occupational Therapy	G	4
Students will use their knowledge of anatomy, kinesiology, client factors, and medical conditions to better analyze the occupations and performance skills of adults with orthopedic and musculoskeletal conditions. Prereq: Enrollment in the Doctorate of Occupational Therapy program.			
6251	Advanced Topics; Physical Agent Modalities	G	1
Students learn to apply physical agent modalities in occupational therapy practice. Prereq: Grad standing in OccTher (DOT), or permission of instructor.			
6289	Level One Physical Function Fieldwork	G	1
In this course, students will gain an understanding of practice in a physical function setting. This course will utilize observation skills, assessment, and development of occupational therapy intervention plans for people with physical impairments. Prereq: Enrollment in the Doctorate in Occupational Therapy program. This course is graded S/U.			
6389	Level One Pediatric Fieldwork	G	1
In this course, students will gain an understanding of school system practice. Students will learn specific skills in observing and evaluating students who receive occupational therapy services. Students will participate in planning intervention activities within the school setting. Prereq: Enrollment in the Doctorate in Occupational Therapy program. This course is graded S/U.			
6510S	Service Learning in OT	G	1
This course exposes students to the emerging practice areas of community health services, inter-generational interventions, and inter-professional relationships in a service learning setting. Prereq: Enrollment in the Doctorate in Occupational Therapy program. This course is graded S/U.			

6730 Research Methods
G 2

Students analyze research reports, develop research questions, identify research methods and designs, collect, analyze and interpret data related to occupational therapy.
Prereq: Enrollment in the Doctorate in Occupational Therapy program.

6740 Health Planning for Individuals and Communities
G 2

The goal of this course is for students to develop skills in using principles of evidence based practice to develop clinical pathways that guide evaluation and intervention for individual and/or diagnostic groups and develop programs through a process of needs assessment, program implementation, and evaluation.
Prereq: HthRhSc 7900 and 7910.

7189 Occupational Therapy Fieldwork II
G 9

Fulltime fieldwork in selected occupational therapy service settings.

Prereq: Enrollment in Masters of Occupational Therapy program. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

7230 Orthopedics in Occupational Therapy
G 2

Students will use their knowledge of anatomy, kinesiology, client factors, and medical conditions to better analyze the occupations and performance skills of adults with orthopedic and rheumatic conditions.

Prereq: Must be an OTD student.

7260 Occupational Therapy for Older Adults
G 2

Students will gain an applied understanding of the older adult demographic, diversity, varying roles, and systems theory including a transactional approach to understanding older adults in context. Students will gain knowledge about treatment of older adults and the systems in which care is delivered.

Prereq: Enrollment in the Doctorate of Occupational Therapy program. Not open to students with credit for 748.

7270 Occupational Performance, Environment and Context: Assessment and Intervention
G 4

Students learn to describe the interaction of client impairments with environmental and contextual factors and occupational performance. Students learn to adapt tasks, environments, and equipment to meet client goals.

Prereq: Enrollment in the Doctorate in Occupational Therapy program, or permission of instructor.

7280 Advanced Topics in Geriatrics
G 2

Students learn advanced practice skills in geriatrics, including treatment and rehab of cognitive impairment, cardiopulmonary conditions, mental health, cancer, endocrine & low vision.
Prereq: Grad standing in Occupational Therapy.

7289 Clinical Doctoral Experience I
G 3

Full-time fieldwork in selected occupational therapy service settings.

Prereq: Grad standing in OccTher (OTD). Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7310 Occupational Therapy for Young Children
G 3

Prepares students to work with infants and young children with developmental disorders. Emphasizes developmental, sensory, motor, play-based, feeding, and interactive practice models.

Prereq: Enrollment in the Doctorate in Occupational Therapy program, or permission of instructor.

7320 Occupational Therapy for School Age and Adolescents
G 2

This course will prepare students to work with school-aged children and adolescents across different health and educational environments. This includes measuring occupational performance, completing standardized assessment and treatment.

Prereq: 7310, and enrollment in the Doctorate in Occupational Therapy program.

7350 Advanced Pediatric Occupational Therapy
G 2

Students achieve advanced skills in neonatal intensive care practice, mobile computer technologies, group interventions; social skills interventions; parent coaching; cognitive intervention; health and wellness.

Prereq: Must be enrolled as an OTD student.

7389 Clinical Doctoral Experience
G 8

This is an advanced experiential course in which the student applies knowledge and skills acquired in the Occupational Therapy program and develops new competencies based on site-specific needs and student interest.

Prereq: Enrollment in the OTD program. This course is graded S/U.

7411 Assistive Technology
G 2

Students apply principles of assistive technology to children and young adults. Emphasis on technology to promote school function and learning, augmentative communication, cognitive aids; pediatric wheelchairs; power mobility; positioning devices.

Prereq: Grad standing in Occupational Therapy.

7420 Management in Occupational Therapy
G 3

Prepares students to become managers, leaders, and advocates. Emphasizes leadership theories, management skills, human resources issues, strategic planning.

Prereq: Enrollment in the Doctorate in Occupational Therapy program.

7430 Supervision and Consultation
G 2

Prepares students to provide consultation and supervision in OT Practice. Consultation theories, models and processes are discussed. Supervision theories and principles are discussed and applied to field.

Prereq: Enrollment in the Doctorate in Occupational Therapy program.

7440 Health Planning for Individuals and Communities
G 1

Covers the theoretical basis for Occupational Therapy fieldwork education and provides students with practical information to enhance their fieldwork experience. Supervision theories and principles are reviewed and applied to Occupational Therapy fieldwork education.

Prereq: Enrollment in the Doctorate in Occupational Therapy program.

7447 Occupational Therapy Fieldwork Preparation II
G 2

This course occurs concurrently with two Level One courses (6289, 6389) and will focus on application of learning experiences to preparation for Level Two fieldwork. Social, political, and legal systems that affect each setting are considered and applied through practical opportunities.

7610 Occupational Therapy Practice Specialization
G 1 - 3

Prepares students to practice in a specialty area of occupational therapy.

Prereq: Must be MOT Student. Not open to students with credit for 793 or AlliMed 885.01. This course is graded S/U.

7620 Occupational Therapy Research Specialization
G 1 - 3

Students participate in research projects, including literature review, measurement; data collection, data analysis and interpretation, and writing research reports. Students report their activities and findings in public venues.

Prereq: Must be MOT Student. Not open to students with credit for AlliMed 885.01. This course is graded S/U.

7710 Capstone Preparation
G 1

Students are assigned to advisors who mentor them in their capstone projects. Students complete a review of the literature in a self-identified area of interest. Based on the identification of programmatic or research gaps, they will create their objectives for their capstone, their advisor, and a site for implementation of the experiences.

Prereq: Must be enrolled as an OTD student. This course is graded S/U.

7720 Capstone Proposal
G 2

With individual advisors, the students develop a capstone project proposal. Based on extensive review of the literature, proposals include a rationale, method and evaluation for 1) a new occupational therapy program, 2) an EPB clinical guideline.

Prereq: Must be enrolled as an OTD student. This course is graded S/U.

7730 Capstone Completion
G 2

The students interpret their data and write their findings for the capstone project. Students submit the final document and orally defend it.

Prereq: Grad standing in OccTher (OTD). This course is graded S/U.

7780 Advanced Neurorehabilitation Practice
G 2

Teaches the principles, evidence, practice, and documentation of clinical practice in adults with neurologic impairments, as well as analysis of how occupational therapy skills and scope of practice are applied to this population.

Prereq: Grad standing in OccTher (OTD).

7790 Advanced Topics in Orthopedic Occupational Therapy
G 2

Occupational therapy students will apply foundational and advanced knowledge and techniques to real clients and simulated client populations with musculoskeletal disorders.

Prereq: Enrollment in the Doctorate of Occupational Therapy program

Ohio State Biochemistry Program
7193 Individual Studies - Laboratory Rotation
G 1 - 12

A qualified graduate student may conduct a minor laboratory research investigation in biochemistry under the direction of program faculty members.

Prereq: Enrollment in the OSBP. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

7600 First-Year Student Orientation
G 1

Orientation for first-year students in OSBP and partner graduate programs; lectures on topics important for successful graduate experience; training in presenting scientific work; training in research ethics.

Prereq: Not open to students with credit for 7600 (760), MCDBio 7600, MolGen 7600, Biophys 7600, or Micrbio 7600. This course is graded S/U. Cross-listed in MCDBio, MolGen, Biophys, and Micrbio.

7700 Interdisciplinary Student Seminar
G 1

Interdisciplinary Seminar in Advanced Biochemistry.

Repeatable to a maximum of 10 cr hrs.

7700.01 Interdisciplinary Student Seminar
G 1

Interdisciplinary Seminar in Advanced Biochemistry.

Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

344 Ohio State Biochemistry Program

8900 Colloquium - Advanced Biochemistry Topics		G	1
Seminars presented by Ohio State faculty and by faculty and professionals from outside the University.			
Prereq: Enrollment in the OSBP. Repeatable to a maximum of 14 cr hrs. This course is graded S/U.			
Optometry			
5600 Eyes on Community Health	U G O	2	
Investigate factors that impact healthcare utilization. Community engagement opportunities include glaucoma screenings and improvisational health coaching for patients dealing with chronic health issues.			
6180 Basic and Ocular Pharmacology	G O	4	
An introduction to the mechanism of action and side effects of pharmacologic agents. Prereq: 2nd yr standing in Optom. Not open to students with credit for 680 or 681.			
6190 Introduction to Clinical Diagnostic Reasoning in Optometry	O	2	
Using a problem-based learning format, optometric cases will be utilized to model and develop diagnostic reasoning skills emphasizing basic science and systemic disease. Prereq: 1st yr standing in Optom.			
6200 Optometric Career Options and Finance	O	2	
Goal setting, modes of optometric practice, and budgeting/debt management principles for achieving personal financial success while in school and after graduation. Prereq: 1st yr standing in Optom.			
6220 Coding & Reimbursement	O	1	
ICD-9 and CPT coding procedures for vision and management/evaluation services; reimbursement issues related to fee schedules, insurance audits, and third-party billing. Prereq: 2nd yr standing in Optom.			
6240 Third-Party Payment Plans	O	1	
Issues related to joining a third-party payment plan; integrating managed care into the optometric office; evaluation of managed care contracts. Prereq: 3rd yr standing in Optom.			
6400 Optometric Examination	O	5	
The underlying concepts and interrelationships of optometric tests to permit the development of diagnosis and treatment plans for a specified series of optometric problems. Prereq: 2nd yr standing in Optom.			
6410.01 Introduction to Primary Care Testing I	O	2	
Through lecture and direct patient care, students will learn technical skills for parts of the optometric examination. Interpretation of tests will be covered superficially. Professionalism and interpersonal skills will be emphasized. Prereq: 1st yr standing in Optom. This course is graded S/U.			
6410.02 Introduction to Primary Care Testing II	O	2	
Through direct patient care experiences, students will learn technical skills for parts of the optometric examination. Interpretation of tests will be covered superficially. Professionalism and interpersonal skills will be emphasized. Prereq: 6410.01, and 1st yr standing in Optom. This course is graded S/U.			
6420 Diagnosing and Prescribing	O	1	
Techniques of investigating special types of vision anomalies; diagnosing and prescribing for vision anomalies; coding and billing. Emphasis on case analysis. Prereq: 2nd yr standing in Optom.			
6440.01 Introduction to Primary Care Practice	O	1 - 4	
Introduction to clinical experience in examining the visual system and carrying out corrective procedures. Prereq: 2nd yr standing in Optom. Repeatable to a maximum of 30 cr hrs.			
6450.01 Primary Care Practice	O	1 - 6	
Clinical experience in examining the visual system and carrying out corrective procedures. Prereq: 3rd yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.			
6450.02 Ophthalmic Dispensing	O	1 - 6	
Clinical experience in ophthalmic design and dispensing; education and experience in dispensary management. Prereq: 3rd yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.			
6450.03 Introduction to Contact Lenses	O	1 - 6	
Clinical experience in specialized phases of optometric practice: contact lenses. Prereq: 3rd yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions. This course is graded S/U.			
6450.04 Ocular Disease Practice	O	1 - 6	
Clinical experience in specialized phases of optometric practice: diagnosis and treatment of ocular disease. Prereq: 3rd yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.			
6450.05 Vision Screening	O	1 - 6	
Clinical experience in specialized phases of optometric practice: binocular vision and pediatrics. Prereq: 3rd yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.			
6450.06 Vision Therapy	O	1 - 6	
Clinical experience in orthoptics and vision therapy. Repeatable to a maximum of 30 cr hrs or 8 completions.			
6560 Ophthalmic Optics	O	5	
Optics of single-vision and multifocal lenses; measurement and fitting of spectacles; lens materials, design and manufacturing; aberrations; prism and centration; managing anisometropia; tints and coatings. Prereq: 2nd yr standing in Optom.			
6610 Epidemiology and Biostatistics	O	2	
The science of epidemiology, research and study design, evaluation of scientific literature, and evidence based medicine in optometry and vision care. Prereq: 1st yr standing in Optom. Not open to students with credit for Optomtry 401 or 722.			
6620 Practice of Optometry	O	1	
Professionalism, clinical decision making, SOAP format, medical records, patient rights, HIPAA, clinical ethics in optometry, diversity and cultural competency. Prereq: 1st yr standing in Optom.			
6760 Ocular Care Techniques	O	2	
Introduction to clinical techniques used in the assessment of ocular health and in the diagnosis and management of ocular disease. Prereq: 2nd yr standing in Optom.			
6770 Advanced Ocular Care Techniques	O	2	
Investigation of advanced clinical techniques used in the assessment of ocular health and in the diagnosis and management of ocular disease. Prereq: 2nd yr standing in Optom.			
7140 Systemic Disease for Optometry	O	3	
Systemic and ocular manifestations of cardiovascular disease, diabetes, hematology, inflammatory disorders, thyroid disorders, neurological disorders, immunology, infectious disorders, macular degeneration management, laboratory blood work. Prereq: 3rd yr standing in Optom.			
7160 Injections, Lasers and Advanced Ocular Techniques	O	2	
Practical experience in injections, ophthalmic lasers and advanced ocular techniques. Prereq: 3rd yr standing in Optom.			
7190 Intermediate Clinical Diagnostic Reasoning in Optometry	O	2	
Using a problem-based learning format, optometric cases will be utilized to further develop clinical diagnostic and management skills requiring basic and clinical science integration. Prereq: 3rd yr standing in Optom.			
7210 Optometric Economics and Jurisprudence; Practice Analysis and Practice Systems	O	3	
Benchmarks, statistical and financial data analysis systems to determine practice viability; the administrative and logistical systems used in an optometric practice; jurisprudence and malpractice. Prereq: 3rd yr standing in Optom.			
7240 Clinical and Business Aspects of Practice	O	1½	
Contemporary topics in clinical and business aspects of optometry including new diagnostic and treatment methodologies and the preparation of business plans. Prereq: 4th yr standing in Optom. Repeatable to a maximum of 10 cr hrs.			
7420 Vision of Children	O	2	
Examination of pediatric patients, including special examination procedures, development of refractive error, prescribing, ocular health, and child abuse. Prereq: 3rd yr standing in Optom.			
7440 Clinical Binocular Vision	O	5	
Classification, epidemiology, diagnosis, and management of nonstrabismic and strabismic binocular vision disorders, accommodative anomalies, amblyopia, oculomotor deficiencies, and visual perceptual lags. Prereq: 3rd yr standing in Optom.			
7450.02 Ophthalmic Dispensing	O	1 - 10	
Advanced clinical experience in ophthalmic design, dispensing, and dispensary management. Prereq: 4th yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.			
7450.03 Contact Lenses and Primary Care	O	1 - 10	
Clinical experience in specialized phases of optometric practice: contact lenses and primary care. Prereq: 4th yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.			
7450.05 Binocular Vision and Pediatrics	O	1 - 10	
Clinical experience in specialized phases of optometric practice: binocular vision and pediatric optometry. Prereq: 4th yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.			

7450.06 Vision Rehabilitation **O 1 - 10**

Clinical experience in specialized phases of optometric practice: vision rehabilitation.
Prereq: 4th yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.

7450.11 Ocular Disease Externship **O 1 - 15**

Clinical experience in specialized phases of optometric practice: ocular disease.
Prereq: 4th yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.

7450.12 Primary Care Externship **O 1 - 12**

Clinical experience in specialized phases of optometric practice: community eyecare.
Prereq: 4th yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.

7450.13 Advanced Care Externship **O 1 - 15**

Clinical experience in specialized phases of optometric practice: advanced clinical care.
Prereq: 4th yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.

7460 Low Vision Rehabilitation and Gerontology **O 5**

Assessment and management of mild to moderate visual impairment, especially related to reading and driving, with special emphasis on the needs of older adults.
Prereq: 3rd yr standing in Optom.

7500 Contact Lenses **O 2**

Optics, design, materials, and measurement of contact lenses, theory, fitting and prescribing of sphericals and torics, post-fitting care, contact lens solutions.
Prereq: 3rd yr standing in Optom.

7510 Contact Lens Lab **O 2**

Measurement, verification, and fitting of rigid gas permeable and soft spherical contact lens designs.
Prereq: VisSci 6500 (501 and 503) or 6520 (511), and 3rd yr standing in Optometry; or permission of instructor. Concur: 7500.

7520 Advanced Contact Lenses **O 3**

Theory, fitting, and prescribing of specialty contact lens designs including but not limited to torics, multifocals, corneal reshaping and fitting the diseased or irregular cornea.
Prereq: 3rd yr standing in Optom.

7530 Advanced Contact Lens Lab **O 1**

Fitting of specialty contact lens designs, such as toric, multifocal, corneal reshaping, and scleral designs.

Prereq: Optom 7500 (Optometry 433 and 653), and 3rd yr standing in Optometry program; or permission of instructor. Concur: 7520.

7710 Anterior Segment Ocular Disease **O 4**

Abnormalities and diseases of anterior segment of the eye with emphasis on identification, diagnosis and general management.

Prereq: 2nd yr standing in Optom.

7720 Posterior Segment Ocular Disease **O 3**

Abnormalities of the posterior segment with emphasis on vitreoretinal disease, vascular disease, and macular disease.

Prereq: 2nd yr standing in Optom.

7730 Ocular Neurology **O 3**

Neurology and neuro-pathology of the visual system and basics of visual field testing and interpretation.

Prereq: 3rd yr standing in Optom.

7740 Management of Glaucoma **O 2**

Glaucoma diagnosis and management including epidemiology, pathophysiology, differential diagnosis, risk assessment, testing strategy and interpretation, medical and surgical management.

Prereq: 3rd yr standing in Optom.

7770 Clinical Ocular Pharmacology **O 4**

Application of pharmacology principles in the clinical setting with emphasis on differential diagnosis and matching drug selection and dosage determination with disease severity.
Prereq: 3rd yr standing in Optom.

7790 Surgery and Comanagement of Ocular Disease **O 2**

Advanced management, pre and post operative management and surgical procedures for ocular disease.

Prereq: 3rd yr standing in Optom.

7800 Special Topics in Optometry **O ½ - 8**

Elective clinical rotations in the professional optometric curriculum.

Prereq: Enrollment in Optom, and permission of instructor or department. Repeatable to a maximum of 40 cr hrs or 20 completions.

Otolaryngology

8803 Observations in Clinical Voice Pathology **G 2**

Med 8803 is an observation course for graduate students in the Singing Health Specialization (SHS) curriculum. Provides students with an opportunity to observe the clinical management of voice disorders including the assessment, treatment.

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8804 Observations in Surgical Laryngology

G 2

Observation course for graduate students in the Singing Health Specialization (SHS) curriculum. Students should have completed MED 803 prior to enrollment in this course. This course provides observation experience in a voice disorders clinic with licensed speech language pathologists and is required for the singing health specialization.
Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8809 Issues in Laryngology for the Vocal Health Professional **G 2**

Advanced anatomy and physiology of the vocal mechanism. Offered for graduate students in the Singing Health Specialization (SHS) curriculum.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

Pathology

4000.10S Undergraduate Research in Molecular Pathology **U 2 - 3**

Students will be doing lab research under Dr. Ramesh Ganju to analyze mechanisms that regulate various diseases. Independent Study Course for any student wishing to complete their Senior Thesis.

Prereq: Permission of instructor. This course is graded S/U.

4991 Application of Histological Theory and Techniques I **U 12**

Students in this histotechnology lab will learn gross and microtomy examination of tissue specimens in both a clinical and a research lab environment. These skills will be acquired through repeated practice to perfect each new skill.

Prereq: Admission to Histotechnology Certificate program; BS or BA (with minimum of 30 semester hours of a combination of biology and chemistry).

4992 Application of Histological Theory and Techniques II **U 12**

Students in this histotechnology lab will perform special stains, understand basic electron microscopy, immunohistochemistry, and clinical laboratory compliance. These skills will be acquired through repeated practice to perfect each new skill.

Prereq: 4991, and admission to Histotechnology program, and BS or BA degree (with minimum of 30 semester hours of a combination of Biology and Chem).

5733 Human Genetics **U G M 2**

The principles of human genetics covering mapping of disease genes, defects causing human disease, the cloning of disease genes, gene therapy, transgene, and specific pathological disorders.

Prereq: MolGen 4500 or 4606, or equiv, and Sr standing. Not open to students with credit for 733, MolGen 5733 (733), or MolBiolc 5733 (MolBiolc 733). Cross-listed in MolGen and MolBiolc.

6640 Fundamentals of Oncology **G 4**

Oriented towards graduate students in cancer-related programs and consists of a series of lectures covering a variety of aspects of experimental oncology.

Prereq: Not open to students with credit for 640 or VetBios 640. Cross-listed in VetBios.

6670 Medical Cytogenetics **G 3**

Overview of cytogenetics in medical diagnosis and evaluation, including laboratory techniques, nomenclature, structural and numerical chromosome abnormalities; prenatal, constitutional, molecular, and cancer cytogenetics. Recommended coursework in genetics and molecular cell biology.

Prereq: Not open to students with credit for 670.

7194 Group Studies in Pathology **G 1 - 4**

Group studies of contemporary topics in mechanisms of disease. Recommended strong background in biological sciences.

Prereq: Permission of instructor. Not open to students with credit for 794.

7793.01 Pathologic Anatomy **G M 3 - 9**

Students work with an attending pathologist, pathology resident and deiner in prosecting cases while they learn the technical operations of the autopsy service.

Prereq: Grad standing, or Med III and IV standing. Concur: An additional 3 hour professional course (when registration is for 3 professional credit hours). Repeatable to a maximum of 18 cr hrs or 2 completions. This course is graded S/U.

7793.09 Surgical Pathology **G 1 - 9**

Student is expected to learn and acquire progressive experience in the microscopic diagnosis of various disease entities.

Prereq: Med III and IV standing, or Grad and Prof standing, and permission of instructor. Repeatable to a maximum of 18 cr hrs or 2 completions. This course is graded S/U.

7847 Cellular Mechanisms and Pathogenesis of Inflammation **G 2**

Inflammatory processes in the human host due to interaction with viruses, bacteria, parasites, foreign antigens, or physical trauma and new immunological therapeutic strategies being developed.

Prereq: MVImg 701 or Microbiol 701, or permission of instructor. Not open to students with credit for MVImg 847.

7999 Thesis Research in Pathology **G 2 - 10**

Research in contemporary topic in mechanisms of disease leading to a Master's thesis.

Prereq: Enrollment in Master of Science program in Pathology. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

346 Pathology

8850 Seminars in Pathology

G 1

Faculty seminars in immunopathology.

Repeatable to a maximum of 14 cr hrs. This course is graded S/U.

Pediatrics

4998 Undergraduate Research in Pediatrics

U 1 - 3

Undergraduate Research Experience in Pediatrics.

Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

8999 Doctoral Thesis Research in Pediatrics

G 1 - 13

Doctoral Thesis Research in Pediatrics.

Prereq: Permission of instructor. Repeatable to a maximum of 12 completions. This course is graded S/U. Admis Cond course.

Persian

1101 Elementary Persian I

U 4

Introduction to Persian; development of listening, reading, speaking, and writing skills. Closed to native speakers of this language.

Not open to students with credit for Persian 101. This course is available for EM credit. GE for lang course.

1102 Elementary Persian II

U 4

Further development of listening, writing, speaking, and reading skills; reading of simplified Persian texts. Closed to native speakers of this language.

Prereq: 1101. This course is available for EM credit. GE for lang course.

1103 Intermediate Persian I

U 4

Further development of listening, writing, speaking, and reading skills; reading of simplified Persian texts. Closed to native speakers of this language.

Prereq: 1102. This course is available for EM credit. GE for lang course.

2104 Intermediate Persian II

U 4

Extensive reading from literary texts, with practice in conversation and composition.

Prereq: 1103.

2105 Intermediate Persian III

U 4

Continued reading from literary texts, with further practice in conversation, composition, and translation.

Prereq: 2104.

2193 Individual Studies

U 1 - 5

Individual Studies.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

2194 Group Studies

U 1 - 5

Group studies.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

2241 Persian Culture

U 3

A survey of Persian Culture through the reading of Persian literature in translation, viewing of Persian films, and listening to Persian music.

Prereq: Not open to students with credit for 241. GE cultures and ideas and diversity global studies course.

2701 Persian Literature in Translation

U 3

A study of Persian literature in translation and the history of its discourses, genres, and styles.

Prereq: English 1110 (110). Not open to students with credit for 371. GE lit and diversity global studies course.

2704 Introduction to Persian Epic

U 3

An introduction, in English, to the Shahnameh of AbolQasem Ferdowsi.

Prereq: English 1110 (110). Not open to students with credit for 374. GE lit course.

3101 Advanced Persian: Reading and Composition

U 4

Extensive reading of classical and modern Persian literary texts, with practice in grammar and composition at an advanced level.

Prereq: 2105.

4999H Honors Research

U 1 - 3

A program of research for individual students that includes individual conferences and culminates in an honors thesis or oral defense.

Prereq: Honors and Sr standing, and GPA 3.5 or above in field of distinction, and approved candidacy for graduation with distinction, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

5193 Individual Studies

U G 1 - 10

Individual studies.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

5194 Group Studies

U G 1 - 10

Group Studies.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions.

5601 Persian Prose

U G 3

Selected readings reflecting the major genres of classical Persian prose, plus a modern novel.

Prereq: 3101, or permission of instructor. Not open to students with credit for 651.

8891 Seminar in Iranian Studies

G 3 - 4

The Seminar in Iranian Studies consists of intensive investigation of a selected topic or problem in Iranian linguistics, philology, literature, religion, or culture.

Prereq: Grad standing. Repeatable to a maximum of 32 cr hrs or 8 completions.

Pharmacy

1100 Pharmaceutical Sciences Survey

U 1

Introduction to the University, strategies for student success, academic programs,

opportunities in the pharmaceutical sciences and practice, and contemporary issues.

Prereq: Enrollment restricted to students in the BSPS program, or permission of instructor.

2010 Pharmacology: How Drugs Work

U 3

This course presents an overview of basic principles underlying drug action.

2020 Job Search Preparation and Transition to Work

U 2

Practical techniques and skill development in conducting a job search, applying to graduate and professional programs, researching career information, and beginning a successful career search.

Prereq: Rank 3 or 4, and enrollment in the BSPS program. This course is graded S/U.

2100 Career Development in Pharmaceutical Sciences I

U 1/2

This class introduces students to diverse careers in the field of pharmaceutical & health sciences. Students will be grouped based on their career interests, & will work with their instructor/peers to gain knowledge on various career paths. Students will engage with guest speakers & will come away with a sense of their options and a critical understanding of career and professional development.

Prereq: Enrollment in the BSPS program, or permission of instructor.

2101 Career Development in Pharmaceutical Sciences II

U 1/2

In this professional development course, students identify a plan for pursuing their career goals and acquire practical skills to assist with job searching, networking, personal branding, and applying to graduate/professional programs.

Prereq: 2100, enrollment in the Bachelor of Science in Pharmaceutical Sciences program, and Jr standing; or permission of instructor.

2367.01 Drug Use in American Culture

U 3

This course investigates a given drug by assessing its historical use, clinical properties and risks, its role in American culture, and other issues surrounding its use/abuse in the United States. Students will analyze various sources of information and effectively communicate key messages using a variety of platforms.

Prereq: English 1110 or equivalent, and Soph standing. Not open to students with credit for 2367.02. GE writing and comm course: level 2.

2367.02 Drug Use in American Culture

U 3

This course investigates a given drug by assessing its historical use, clinical properties and risks, its role in American culture, and other issues surrounding its use/abuse in the United States. Students will analyze various sources of information and effectively communicate key messages using a variety of platforms. Online delivery only.

Prereq: English 1110 or equivalent, and Soph standing. Not open to students with credit for 2367.01. GE writing and comm course: level 2.

2400 Addicting Drugs: Effects, Introductory Neurobiology, and Regulation

U 2

Overview of effects, regulation, and mechanism of action of addicting drugs, with an introduction to function of the nervous system and how this function is altered by drugs.

Prereq: Not open to students with credit for Pharmacy 200 or 2000. Not open to professional students in the College of Pharmacy.

2410 Drugstore Science

U 2

This course introduces the science behind common drugstore products, including over-the-counter (OTC) medications and drug-cosmetics, including how these products work, potential non-drug alternatives, and various drug-related issues involving their use. Note: Content of this course is not intended to be considered as professional medical advice or to replace advice from a healthcare provider.

2500 Drug Discovery, Development and Delivery

U 3

Provides a comprehensive overview of the drug discovery, development, and delivery process within the U.S. healthcare system, exploring the roles of vested stakeholders (e.g., patients, pharmaceutical industry, providers, insurers, society, etc.) during a drug's "bench to bedside" development including its post-development place in therapy.

2510 Introduction to Pharmacy

U 2

A survey of the profession of pharmacy, dealing with its history, educational requirements, organization, regulation, and current developments.

Prereq: Not open to students with credit for Pharmacy 400 or Phr 4510.

2511H	Introduction to Pharmacy	U	3
A survey of the profession of pharmacy including its history, scope of practice, educational pathways, ethical foundations, regulation, contemporary issues, career opportunities, and prospects for the future; as well as topics relating to medication use and drug discovery/development.			
Prereq:	Enrollment in the BSPS program and Honors standing, or permission of instructor. Not open to students with credit for 2510, 4510, or 4511H.		
3100	Human Physiology and Disease	U	4
This course examines principles of human physiology and provides an overview of the most common pathophysiological diseases.			
Prereq:	Completion of one course in Biology and one course in Chemistry, and enrollment in the BSPS program.		
3191	Experiential Learning in Pharmaceutical Sciences	U	1
Students will begin to develop and solidify their career goals and improve their understanding of career and professional development in the pharmaceutical sciences through hands-on experience in an internship, course lectures and assignments. Students will work closely with supervisors and instructors to explore skills and receive constructive feedback.			
Prereq:	Permission of instructor, and students must already have secured an internship/experiential opportunity. This course is graded S/U.		
3200	Biochemistry for the Pharmaceutical Sciences	U	5
Fundamentals of biological chemistry for the study of the pharmaceutical sciences, including molecular basis of structure, metabolism, genetic replication, transcription, and translation in humans. Ties to drug processes will be highlighted.			
Prereq:	Chem 2520 or 2920H; and enrollment in the BSPS program, or permission of instructor.		
3400	Therapeutic Frontiers	U	2
Investigation of newly emerging (and at times) controversial strategies for treating disease, including biologics, cell replacement therapy, and vaccines among others. This course also explores the science behind important therapeutic factors such as the placebo effect, the microbiome, and pharmacogenomics.			
Prereq:	Not open to students with credit for 4410.		
3410	Science Communication & Engagement	U	1
Within the Generation Rx Laboratory at the Center of Science and Industry (COSI), students will practice science communication as they create and lead live, hands-on experiments teaching basic drug science.			
Prereq:	Jr or Sr standing, enrollment in the BSPS program, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
3420	Generation Rx: America's Drug-Taking Culture	U	3
This course analyzes America's drug-taking culture by examining its past, present, and future. Students will identify factors that fuel it, discuss its influence on a patient's medication experience, and evaluate its role in a current public health crisis. The course will conclude with discussing ideas that promote a culture of health.			
GE cultures and ideas course.			
3500	Pharmacoethics: Dilemmas and Decision-Making	U	2
Develops core competencies in ethical issues in healthcare settings amidst a biologically, socially, culturally diverse patient population. Discusses the pharmaceutical industry's ethical responsibilities & professional conduct, including clinical drug trials & studies, research, marketing & promotion. Discusses basic principles of business ethics in other healthcare industries.			
3520	Principles of Therapeutics	U	2
Designed to provide knowledge about medication therapies and treatment guidelines for common illnesses affecting patients.			
Prereq:	Not open to students with credit for Phr 4520. This course is graded S/U.		
3530	Drugs, Human Enhancement, and the Mastery of Nature	U	3
How should we navigate questions of identity in the world of cognitive and mood enhancing drugs? Where do we draw the line on 'smart drugs' for intellectual endeavors or the use of performance enhancing drugs in athletic pursuits? More broadly, we will debate whether and how as a society we might enact particular restraints on our pursuit of human enhancements. GE cultures and ideas course.			
3708	Vaccines: A Global History	U	3
This course examines the history and biology of vaccines. We explore the discovery and development of vaccines, along with the political and cultural controversies that have surrounded them for centuries. Team-taught course with faculty member in History.			
Prereq:	Not open to students with credit for History 3708. GE historical study course. Cross-listed in History.		
4000	Molecules to Medicines I: An Integrated Approach to the Pharmaceutical Sciences	U	5
First course in a two-course series. Principles governing the design, synthesis, delivery, action and use of drugs in disease treatment. Model disease pathophysiology and treatment will be investigated, discussing how biological differences can be targeted for therapeutic gain.			
Prereq:	3200, 4100, Biochem 4511, or 5614 (prereq or concur). Prereq or concur: Phr 3100, EEOB 2520, or Physio 3200.		
4010	Molecules to Medicines II: An Integrated Approach to the Pharmaceutical Sciences	U	5
Second course in a two-course series. Principles governing the design, synthesis, delivery, action and use of drugs in disease treatment. Model disease pathophysiology and treatment will be investigated, discussing how biological differences can be targeted for therapeutic gain.			
Prereq:	4000.		
4100	Biomedicinal Chemistry	U	3
Fundamentals of biological chemistry for the study of pharmaceutical sciences.			
Prereq:	Chem 2520 or 2950H, and enrollment in the BSPS program; or permission of instructor. Not open to students with credit for 461 and 462.		
4191	BSPS Internship for Curricular Practical Change	U	0
Provides professional experience which will prepare students for professional expectations upon graduation. This course accompanies the active pursuit of an internship experience which satisfies the requirements for curricular practical training.			
Prereq:	Enrollment in the BSPS program, submitted CPT application, letter of offer from CPT site, and permission of instructor. This course is graded S/U.		
4193	Individual Studies in Pharmaceutical Sciences	U	½ - 12
Laboratory and library work designed to give the qualified student an opportunity to complete an original investigation or pursue an interest in a special problem.			
Prereq:	COPHR 2.5 or above, and Soph standing, and enrollment in the BSPS program, and permission of instructor. Not open to students with credit for Pharmacy 493. Repeatable to a maximum of 30 cr hrs or 12 completions. This course is progress graded (S/U).		
4194	Group Studies in Pharmaceutical Sciences	U	1 - 12
Group studies topics in various fields of Pharmacy.			
Prereq:	Enrollment in BSPS program, or permission of instructor. Not open to students with credit for Pharmacy 494.01. Repeatable to a maximum of 12 cr hrs or 12 completions.		
4200	Introduction to Medicinal Chemistry	U	3
Chemical and biochemical principles governing the design, synthesis and properties of drugs.			
Prereq:	4100 and Chem 2520, and enrollment in the BSPS program; or permission of instructor. Not open to students with credit for 410.		
4210	Problem Solving in Biomedicinal Chemistry	U	2
A course designed to use problem-based learning to promote understanding of biomedicinal concepts. Case studies will be assigned allowing students to apply biochemical principles and communicate with their colleagues in the course.			
Prereq:	3200 or 4100, and enrollment in BSPS program. Not open to students with credit for 494.02.		
4330	Basic Pharmacokinetics	U	2
An elementary course designed to introduce the student to the topic of pharmacokinetics. The application of biopharmaceutics and pharmacokinetic principles as they relate to drug absorption, distribution and elimination will be discussed.			
Prereq:	Math 1141 or 1151, or permission of instructor.		
4400	Integrated Pharmacology	U	2
An overview of pharmacological, biochemical, and physiological effects of drugs to facilitate an understanding of drug mechanism and pharmacotherapy.			
Prereq:	4100 and EEOB 2520 (232), or Physio 3102 (PhysioCB 312); and Enrollment in the BSPS program, or permission of instructor. Not open to students with credit for 480.		
4420	Molecular Pharmacology-From DNA to Biopharmaceutical Products	U	2
Introduces students to pharmacological research and drug discovery through readings, discussions, and presentations.			
Prereq:	3200 or 4100; or Chem 2520 or 2920H, and Biochem 4511 or 5613. Not open to students with credit for Pharmacy 471.		
4430	GPCR Pharmacology	U	1
Focuses on the pharmacology of G-protein-coupled receptors (GPCRs). GPCRs constitute a large and diverse family of proteins whose importance is underscored by the fact that at least one third of the currently marketed drugs target these proteins.			
Prereq:	Enrollment in the BSPS program. Not open to students with credit for 472.		
4440	Pharmacology of Neurologic and Psychiatric Disorders	U	3
This course will serve as an introduction to principles of pharmacological therapy of neurologic and psychiatric diseases.			
Prereq:	3200 or 4100, or Biochem 4511 or 5613, or Neurosc 3000, or permission of instructor.		
4470	Contemporary Pharmacology	U	1
Exploration of current research topics in pharmacology through discussions of recently published pharmacology papers. Enrollment with permission of Instructor.			
Prereq:	4000, 4400, or 4460; and permission of instructor. Repeatable to a maximum of 3 ch hrs.		
4600	Pharmaceutical Sciences Laboratory	U	2
Laboratory experience in isolation, synthesis and evaluation of pharmaceutically relevant compounds.			
Prereq or concur:	3200 or 4100, or Biochem 4511 or 5613; and Enrollment in BSPS program, or permission of instructor. Not open to students with credit for 411, 421, or 481.		

348 Pharmacy

4610	Experimental Techniques in Drug Discovery	U	3		5550	Topics in International Pharmacy	U G P	2
	Examination of the laboratory instrumentation and methods used in the drug discovery process.				Seminar on global pharmaceutical issues and international practices of pharmacy.			
	Prereq: 3200 and 4000.				Prereq: Jr or Sr standing. Not open to students with credit for 5180 or 694. This course is graded S/U.			
4997	BSPS Honors Project	U	1 - 4		5560	Success & Leadership in Pharmacy	U G P	1½
	The Honors Project class is designed to provide undergraduate students with practical experience in the pharmaceutical sciences through research, outreach and engagement, internships, and other activities.				Explore the meaning of success and leadership, attributes of successful leaders and what can be done to be a successful leader.			
	Prereq: Honors standing, and enrollment in the BSPS program. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.				Prereq: Enrollment in College of Pharmacy, or permission of instructor. Not open to students with credit for Pharmacy 761 or Pharmacy 5610. This course is graded S/U.			
4998	General Undergraduate Research	U	1 - 18		5580	Professional Ethics	U P	1½
	Course credit earned by conducting research while enrolled as an undergraduate student. Repeatable to a maximum of 60 cr hrs or 12 completions. This course is graded S/U.				The conceptual basis and content of pharmaceutical ethics; significance of codified ethics, interprofessionally considered; individual and group analysis of ethical issues; methods of encouraging compliance.			
4999	Undergraduate Research Thesis	U	1 - 18		Prereq: Soph standing in BSPS program, or enrollment in PharmD program. Not open to students with credit for Pharmacy 614 or Phr 5140.			
	Culmination of undergraduate research in the form of written thesis.				5590	Chemical Dependency and the Healthcare Professional	U G P	3
	Repeatable to a maximum of 60 cr hrs or 12 completions. This course is graded S/U.				This lecture- and discussion-based course provides instruction, debate and exploration relating to the impact of chemical dependency on healthcare professionals, including the concepts of addiction, individuals at risk, intervention, withdrawal, emotions, recovery networks, regulatory actions and returning to practice.			
5000	Strategies for Interprofessional Case Management	U G P	2		5700	Introduction to Personalized Therapeutics and Pharmacogenomics	U G P	3
	A problem-focused learning approach to the interprofessional management of complex patients to develop an understanding of the roles and scope of practice of different professions and the impact of a team approach to patient care.				Exploration of the trend of therapy tailored to the individual patient rather than "one drug fits all;" inter-individual differences in drug responses, with emphasis on genetic and genomic factors; ethical, regulatory, and economic issues that impact drug therapies. Credit for introductory biology course recommended prior to enrollment.			
	Prereq: Enrollment in the PharmD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.				Cross-listed in BioPhrm.			
5005	Fundamentals of Pathophysiology	U G	3		5797	Study at a Foreign Institution	U G P	1 - 18
	This course provides a fundamental overview of human pathophysiology by comparing dysfunctional body processes to normal physiological function. Case studies will be applied to pathophysiological phenomena.				An opportunity for students to study at a foreign institution and receive OSU credit for work completed there. Students will pay OSU fees and any fees in excess of OSU tuition, as well as all travel and subsistence costs.			
	Prereq: Admission to the MS Pharmacology or Master of Applied Clinical and Preclinical Research program, or permission of instructor. Not open to students with credit for HthRhSc 5500, or enrollment in PharmD program.				Prereq: Permission of department. Repeatable to a maximum of 54 cr hrs or 3 completions.			
5010	Fundamentals of Pharmacology	U G	3		5798	International Healthcare Experience in Pharmacy	U P	3
	This course overviews principles underlying drug action, including an investigation of current treatments for a variety of common diseases. In addition, this course will implement activities that emphasize the ethical aspects and implications of a variety of drug therapies.				Preparation for traveling abroad to a destination country. Students will be introduced to the culture, history, and healthcare practice in the destination country. Evaluation will be based on participation in individual class sessions and fulfillment of assignments.			
	Prereq: Not open to students with credit for 2010, or 4400, or Pharmcl 5600, or HthRhSc 5510; or enrollment in PharmD program.				Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.			
5402	Introduction to Pharmacoeconomics	U G P	3		6001	Introductory Pharmacy Practice Experiences I	P	1
	Introduction to economic evaluation of pharmaceutical interventions and pharmacy services, including evaluating costs and health outcomes, using results to inform resource allocation, interpretation and evaluation of pharmacoeconomics literature, and decision analysis in health care.				First in a two-module sequence of part-time experiences that enhance and complement first-year professional coursework. Students engage in activities in community pharmacies and with other pharmacy partners. Activities provide foundation for attitudes and skills that will be applied during the professional practice laboratory.			
	Prereq: Grad, Jr, or Sr standing. Not open to students with credit for Nursing 7402.				Prereq: Enrollment in the Doctor of Pharmacy program. Not open to students with credit for 664. This course is graded S/U.			
5460	Current Addiction Neurobiology Literature	U P	1		6002	Introductory Pharmacy Practice Experiences II	P	1
	Current research findings relating to neurobiology of addiction are explained and interpreted. Students should have some introductory knowledge of neurobiology.				Second in a two-module sequence of part-time experiences that enhance and complement first-year professional coursework. Students engage in activities in community pharmacies and with other pharmacy partners. Activities provide foundation for attitudes and skills that will be applied during the professional practice laboratory.			
	Repeatable to a maximum of 9 cr hrs.				Prereq: Enrollment in PharmD program. Not open to students with credit for 664. This course is graded S/U.			
5500	History of Pharmacy	U P	3		6010	Biopharmacy I	G P	2
	Evolution and development of the profession of pharmacy from antiquity to the present, with emphasis on its Anglo-American development since the 18th century.				The first in a two-course sequence which provides the fundamental background in modern molecular life science required for pharmacy studies.			
	Prereq: Soph standing in BSPS, or enrollment in PharmD program. Not open to students with credit for Pharmacy 513.01 or Phr 5130.				Prereq: Enrollment in PharmD program, or graduate standing in Pharmacy, or permission of instructor. Not open to students with credit for Pharmacy 601.			
5510	Basics of Pharmaconutrition	U P	3		6020	Biopharmacy II	G P	2
	Covers basic information on the effects of dietary factors on pharmaconutrition to be utilized as a foundation in solving patient-related cases in pharmacy practice.				The second in a two-course sequence which provides the fundamental background in modern molecular life science required for pharmacy studies.			
	Prereq: Sr standing in the BSPS program, or enrollment in the PharmD program.				Prereq: Enrollment in PharmD program, or graduate standing in Pharmacy, or permission of instructor. Not open to students with credit for Pharmacy 602.			
5520	Advanced Pharmaconutrition	U G P	2		6050	Medicinal Chemistry I	P	4
	Provides concepts needed by pharmacists necessary to include nutrition into their daily assessment of patients and integrate their findings into the therapeutic plan.				The first in a two course sequence covering chemical and biochemical principles governing the properties of drugs.			
	Prereq: 5510, and enrollment in the College of Pharmacy; or permission of instructor. Not open to students with credit for Phr 5155.				Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 605, 606, or 607.			
5530	The Medical Applications of Radionuclides and Radiopharmaceuticals	U P	2		6060	Medicinal Chemistry II	P	4
	A study of the theoretical and clinical aspects of the preparation, use, control, and handling of radionuclides and radiopharmaceuticals used in medicine.				The second in a course sequence covering chemical and biochemical principles governing the properties of drugs and an introduction of the application of immunology principles to pharmacology, therapeutics and patient care.			
	Prereq: Jr standing, and enrollment in Pharmaceutical Science Plan, Allied Medical Profession Plan, or PharmD Plan; or permission of instructor. Not open to students with credit for Pharmacy 616 or Phr 5160.				Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 605, 606, or 607.			
5540	Introduction to Clinical & Translational Pharmacy	U P	2					
	Introduction to conducting research in clinical pharmacy including research design issues and to ethical considerations. Faculty conducting research in various populations will discuss their research, followed by class discussion.							
	Prereq: Phr 4000, and enrollment in the PharmD or BSPS program. Not open to students with credit for Pharmacy 617 or Phr 5170. This course is graded S/U.							

6080 Physiology I	G P	3	6302 Concepts in Patient Care II	P	3
First of a two-course sequence presenting the application of physiology to the practice of pharmacy.			The second in a two-module sequence addressing concepts and skills that are essential components of exemplary patient care. This module focuses on oral and written communication and drug information skills in the context of using the patient care process to counsel patients about the selection and use of nonprescription medications, particularly in community and ambulatory care pharmacy settings.		
Prereq: Enrollment in PharmD or Pharmacy graduate program, or permission of instructor. Not open to students with credit for PhysioCB 601.			Prereq: Enrollment in the Doctor of Pharmacy program.		
6090 Physiology II	G P	3	6401 Integrated Patient Care Laboratory I	P	3
Second of a two-course sequence presenting the application of physiology to the practice of pharmacy.			First in a two-module professional practice laboratory sequence. Topics include preparation/dispensing of various dosage forms, communication, use of drug information resources, and use of instruments.		
Prereq: Enrollment in PharmD or Pharmacy graduate program, or permission of instructor. Not open to students with credit for PhysioCB 602.			Prereq: Enrollment in the Doctor of Pharmacy Program.		
6101 Transitions I	P	1	6402 Integrated Patient Care Laboratory II	P	3
Provides students with an orientation to pharmacy school as well as essential skills and tools for successful matriculation to the professional PharmD curriculum.			Second in a two-module professional practice laboratory sequence. Topics include preparation/dispensing of various dosage forms, communication, use of drug information resources, and use of instruments.		
Prereq: Enrollment in the Doctor of Pharmacy program.			Prereq: Enrollment in the Doctor of Pharmacy program.		
6102 Transitions II	P	1	6501 Principles of Drug Action I	P	5
This course builds on skills and knowledge gained in the first year of the program in preparation for a summer intensive professional experience and the second year curriculum. The major course themes are leadership, entrepreneurship, and innovation.			This module provides basic foundations in the pharmaceutical sciences necessary for the understanding of drugs and the determinants of drug action. The module covers biochemistry and physiology of drug action, physical chemistry of pharmaceutical products, medicinal chemistry and pharmacokinetics.		
Prereq: Enrollment in the Doctor of Pharmacy program.			Prereq: Enrollment in the Doctor of Pharmacy program.		
6191 Pharmacy Internship for Curricular Practical Training	P	0	6502 Principles of Drug Action II	P	9
Provides additional experience in a professional pharmacy setting which is necessary to prepare students for experiential rotations that are a required part of the curriculum as the student progresses towards their Doctor of Pharmacy degree. This course accompanies the active pursuit of a pharmacy internship experience which satisfies the requirements for curricular practical training.			This module provides basic foundations in the pharmaceutical sciences necessary for the understanding of drugs and the determinants of drug action. The module covers biochemistry and physiology of drug action, physical chemistry of pharmaceutical products, medicinal chemistry and pharmacokinetics.		
Prereq: Submitted CPT application, and letter of offer from CPT site, and permission of instructor. This course is graded S/U.			Prereq: Enrollment in the Doctor of Pharmacy program.		
6193 Individual Studies in Pharmacy	P	½ - 12	6550 Pharmacy Students East Meets West Videoconference	P	1
Laboratory and library work designed to give the qualified student an opportunity to complete an original investigation or pursue an interest in a special problem.			This is a seminar course focused on pharmaceutical issues in the United States and Taiwan. The course will provide students the opportunity to interact with pharmacy students from overseas to learn about global pharmacy practice. The students will use a team-based learning approach in a flipped classroom setting.		
Prereq: Enrollment in PharmD program, and permission of instructor. Repeatable to a maximum of 30 cr hrs or 12 completions. This course is graded S/U.			Prereq: Enrollment in PharmD program, or permission of instructor. This course is graded S/U.		
6194 Group Studies in Pharmacy	P	1 - 12	6610 Pharmacy Practice I	P	3
Group studies topics in various fields of Pharmacy.			The first in a two-course sequence covering concepts fundamental to pharmacy practice. Topics include orientation to the profession, drug information communications, and professionalism.		
Prereq: Enrollment in PharmD, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completion.			Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 661, 662, or 673.		
6201 Foundations in Pharmacy Administration I	P	2	6620 Pharmacy Practice II	P	3
An introduction to the U.S. healthcare system, management, leadership, and pharmacy law, in preparation for roles as pharmacy interns and future pharmacy practitioners.			The second in a two-course sequence covering concepts fundamental to pharmacy practice. Topics include drug information, communications, professionalism, cultural competency, and the health care system.		
Prereq: Enrollment in the Doctor of Pharmacy program.			Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 661, 662, or 673.		
6210 Drug Delivery I	P	3	6701 Program Level Assessment I	P	½
Principles that govern the design and use of solution dosage forms, including physicochemical properties, ionization, solubility and stability.			The purpose of the PLA is to assess students' competence with knowledge and skills delivered in the P1 year and readiness to proceed in the curriculum.		
Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 621, 622, or 623.			Prereq: Enrollment in PharmD program. This course is graded S/U.		
6220 Drug Delivery II	P	3	7000 Pharm.D. Program Course Remediation	P	½
Routes of drug administration and the physiologic and physicochemical factors that influence drug penetration, absorption and bioavailability.			This course will be offered at the discretion of the Pharm.D. Academic Review Committee to remediate a course that requires successful completion as a program requirement. This may be used to fulfill the requirement of successful completion of required coursework and repeated within Pharm.D., but students cannot enroll in 7000 more than once for the same course.		
Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 621, 622, or 623.			Prereq: Enrollment in the Doctor of Pharmacy program, and approval of the Pharm.D. Academic Review Committee. Repeatable to a maximum of 1.5 cr hrs. This course is graded S/U.		
6240 Pharmaceutical Calculations	P	½	7003 Introductory Pharmacy Practice Experiences III	P	1
Introduction to prescription terminology and pharmaceutical calculations; emphasis on measurement systems, conversions, percent preparations, units of concentrations, calculation of doses, dilutions, milliequivalents, and millimoles.			Introductory pharmacy practice experiences. Students apply didactic pharmacy course work in a variety of pharmacy practice settings.		
Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 624.			Prereq: Enrollment in PharmD program. Not open to students with credit for Pharmacy 664. This course is graded S/U.		
6260 Laboratory and Diagnostic Testing	P	1	7004 Introductory Pharmacy Practice Experiences IV	P	1
Introduction of concepts in quantitative analysis and fundamental concepts of analytical measurement with a focus on laboratory technologies and assays relevant to the practicing pharmacist.			Introductory pharmacy practice experiences. Students apply didactic pharmacy course work in a variety of pharmacy practice settings.		
Prereq: Enrollment in PharmD program.			Prereq: Enrollment in PharmD program. Not open to students with credit for Pharmacy 784. This course is graded S/U.		
6301 Concepts in Patient Care I	P	3	7005 Introductory Pharmacy Practice Experiences V	P	1
The first in a two-module sequence addressing concepts and skills that are essential components of exemplary patient care. This module focuses on oral and written communication and drug information skills in the context of using the patient care process to counsel patients about the selection and use of nonprescription medications particularly in community and ambulatory care pharmacy settings.			Introductory pharmacy practice experiences. Students apply didactic pharmacy course work in a variety of pharmacy practice settings.		
Prereq: Enrollment in the Doctor of Pharmacy program.			Prereq: Enrollment in PharmD program. This course is graded S/U.		

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7006	Introductory Pharmacy Practice Experiences VI	P	1				
	Introductory pharmacy practice experiences. Students apply didactic pharmacy course work in a variety of pharmacy practice settings.						
	Prereq: Enrollment in PharmD program. This course is graded S/U.						
7007	Introductory Pharmacy Practice Experiences VII	P	2				
	Introductory pharmacy practice experiences. Students apply didactic pharmacy course work in a variety of pharmacy practice settings.						
	Prereq: Enrollment in PharmD program. Not open to students with credit for Pharmacy 784.						
7008	Professional Activities	P	½				
	Independent study activities related to advanced pharmacy practice experiences.						
	Prereq: Enrollment in the PharmD program. Not open to students with credit for 693.						
	Repeatable to a maximum of 3 cr hrs. This course is progress graded (S/U).						
7010	Advance Pharmacy Practice Experiences Option	P	3				
	Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.02. Repeatable to a maximum of 12 cr hrs.						
7011	Advance Pharmacy Practice Experiences I	P	3				
	Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.03.						
7012	Advance Pharmacy Practice Experiences II	P	3				
	Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.04.						
7013	Advance Pharmacy Practice Experiences III	P	3				
	Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.05.						
7014	Advance Pharmacy Practice Experiences IV	P	3				
	Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.06.						
7015	Advance Pharmacy Practice Experiences V	P	3				
	Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.07.						
7016	Advance Pharmacy Practice Experiences VI	P	3				
	Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.08.						
7017	Advance Pharmacy Practice Experiences VII	P	3				
	Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.09.						
7018	Advance Pharmacy Practice Experiences VIII	P	3				
	Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.09.						
7019	Advance Pharmacy Practice Experiences IX	P	3				
	Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.09.						
7110	Dietary Supplements and Herbal Products	P	2				
	An overview of the relevant scientific aspects of dietary supplements and herbal products.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 711.						
7130	Humanistic Pharmacy	P	2				
	The fundamental principles of humanistic practice are open communication, mutual respect, and absence of judgment between patients and health care providers. This course will use current literature, patient cases, speakers, personal reflection, and group exercises to empower students to provide and advocate for humanistic healthcare.						
	Prereq: Enrollment in the PharmD program.						
7140	Neurobiology of Addiction	G P	2				
	Covers current knowledge of changes in molecular and circuit pathways in the brain that occur in response to use of addictive drugs and are thought to underlie the behavioral challenges of addiction.						
	Prereq: Grad standing in Phr, or enrollment in PharmD program, or permission of instructor.						
7150	Pediatric Pharmacotherapy	P	1½				
	A review of pediatric pharmacotherapy of selected diseases with pharmaceutical care ramifications in various settings.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 715.						
7160	Advocacy in Pharmacy	P	1				
	Informs and engages students in legislation, the role of advocacy in Pharmacy, current healthcare issues, and how students and organizations can make a difference in the future of Pharmacy practice.						
7170	Pain Palliative Care and Geriatrics	P	3				
	Chronic pain management, palliative care and geriatric pharmacotherapy. Topics address interdisciplinary viewpoints related to disease and associated symptoms management in geriatric and end-of-life care.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 717.						
7180	CNS Drug Discovery	P	1				
	The primary objective of this course is to help students learn to critically evaluate scientific papers in the area of CNS drug discovery and to present their evaluations to their colleagues. This objective will be achieved through lecture, student presentations, and group discussions of current, high-impact CNS pharmacological or related research.						
	Prereq: Grad standing, enrollment in PharmD program, or permission of instructor. Not open to students with credit for 8720.						
7190	Topics in Oncology Pharmacy	P	1				
	Collaboratively-taught course on hematology/oncology pharmacy. Students learn to apply concepts to actual patient cases. Topics include current events, supportive care, bone marrow transplant, chronic lymphocytic leukemia, head and neck cancer, renal cell cancer, oncology pharmacy administration & leadership, medication assistance programs, oral/IV chemotherapy, career paths in oncology pharmacy.						
	Prereq: Second or Third-year standing in the PharmD program, or permission of instructor. This course is graded S/U.						
7200	Patient Care Services in Community and Ambulatory Pharmacy Practice	P	1				
	Encourages application of pharmacy practice principles & project management skills to community & ambulatory pharmacy. Opportunities & barriers to providing direct patient care in ambulatory care & community pharmacy settings, maintaining collaborative relationships, continuous practice improvement, demonstrating the value of pharmacy practice for stakeholders will be discussed and applied.						
	Prereq: Completion of first year in the PharmD program. This course is graded S/U.						
7210	Strategies for Interprofessional Case Management	P	2				
	A problem-focused learning approach to the interprofessional management of complex patients to develop an understanding of the roles and scope of practice of different professions and the impact of a team approach to patient care.						
	Prereq: Enrollment in the PharmD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.						
7220	Health Analytics	G P	3				
	Exposes graduate and professional students to how analytics drive systematic changes in healthcare, focusing on evaluating pharmaceuticals. This course will address health analytics throughout the healthcare continuum, including assessing an organization's analytical capabilities, using health analytics for purchasing and treatment decisions, and developing practice priorities.						
	Prereq: Econ 2001.01, 2001.02, or 2001.03; and Econ 2002.01, 2002.02, or 2002.03; or permission of instructor.						
7240	Clinical Pharmacogenomics	G P	2				
	Principles and techniques necessary to understand the role of genetic variation in the pharmacokinetics of drugs and therapeutic management of disease.						
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 724.						

7303 Concepts in Patient Care III	P	1½
This course focuses on communication and drug information skills in the context of understanding and utilizing the patient care process. Communication and drug information skills will be discussed and applied in the context of community & ambulatory care pharmacy practice.		
Prereq: Enrollment in PharmD program.		
7304 Concepts in Patient Care IV		
The fourth in a series of modules addressing concepts and skills that are essential components of exemplary patient care. This module focuses on learning the elements and process involved in Medication Therapy Management. The module also includes skill development of working in an Interprofessional environment as well as appropriate drug information response and medical literature citations.	P	1½
Prereq: Enrollment in PharmD program.		
7305 Concepts in Patient Care V	P	3
This is the last course in a series of courses addressing concepts and skills that are essential components of exemplary patient care. This module focuses on advancing professional practice skills and concepts related to nonprescription products and integrative medicine practices. Materials will be delivered via lectures, small group activities, and case-based discussions.		
Prereq: Enrollment in PharmD program.		
7310 Clinical Pharmacokinetics I	P	3
The first in a two-course sequence in clinical pharmacokinetics and pharmacodynamics and their application to pharmacotherapy.		
Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 731 or 732.		
7320 Clinical Pharmacokinetics II	G P	3
The second in a two-course sequence in clinical pharmacokinetics and pharmacodynamics and their application to pharmacotherapy.		
Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 732 or 733.		
7350 Drug Discovery and Drug Design	G	2
A study of the discovery and design of new drugs; topics include natural products isolation, molecular modeling, molecular targets, and biosynthesis and metabolism.		
Prereq: Grad standing and permission of instructor. Not open to students with credit for Pharmacy 735.		
7370 Advanced Pharmaceutical Analysis	G	2
The use of NMR spectroscopy in the assay and control methods of drug preparations.		
Prereq: Chem 5420 (632), and Grad standing. Not open to students with credit for Pharmacy 737.		
7403 Integrated Patient Care Laboratory III	P	3
This course is a series of authentic, hands-on experiences that enable students to master component skills that are essential for exemplary patient care and practice integrating those skills in simulated practice settings. Topics include sterile compounding, institutional pharmacy practice, and electronic health records. Students will also continue to develop skills introduced earlier in IPCAL.		
Prereq: Enrollment in PharmD program.		
7404 Integrated Patient Care Laboratory IV	P	3
The fourth course in a series of authentic, hands-on experiences that enable students to master component skills that are essential for exemplary patient care. Students will practice integration of these patient care skills in simulated practice settings.		
Prereq: Enrollment in PharmD program.		
7405 Management of Clinical and Preclinical Studies	G	3
Fundamental principles of clinical research operations from study site selection to study closure from the perspective of sponsors and clinical research sites including an introduction to database design, management, quality assurance, and reporting for site and sponsor operations.		
Prereq: Nursing 7770 or Phr 7770; or permission of instructor.		
7406 Integrated Patient Care Laboratory V	P	2½
This is the fifth course in a series of authentic, hands-on experiences that enable students to master component skills that are essential for exemplary patient care. Students will practice integration of these patient care skills in simulated practice settings.		
Prereq: Enrollment in PharmD program.		
7460 Regulatory Strategy, Writing, and Leadership	G P	3
Explores regulatory strategy in new medical product development and the roles of regulatory professionals. Scholarly and technical writing skills for regulatory professionals for new product submissions and Food and Drug Administration (FDA) Advisory Panels. Principles of strategic planning, leadership, communication, and team building.		
Prereq: 7770, Nursing 7770, or permission of instructor. Cross-listed in Nursing.		
7470 Pharmacology and Therapeutics I	G P	8
The first in a four-course sequence in pharmacology, pathophysiology and pharmacotherapy providing a comprehensive study of the therapeutic effects, pharmacodynamics, mechanistic actions, and toxicological effects of important drug classes.		
Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 747, 748, 777, or 778.		

7480 Pharmacology and Therapeutics II	G P	7
The second in a four-course sequence in pharmacology, pathophysiology and pharmacotherapy providing a comprehensive study of the therapeutic effects, pharmacodynamics, mechanistic actions, and toxicological effects of important drug classes. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 748, 749, 778, or 779.		
7482 Principles of Quality Management for Medical Product Development		
Concepts and application of total quality management for federal regulation of medical product development including drugs and medical devices.		
Prereq: 7405, Nursing 7405, or permission of instructor. Cross-listed in Nursing.		
7490 Pharmacology and Therapeutics III	G P	7
The third in a four-course sequence in pharmacology, pathophysiology, and pharmacotherapy providing a comprehensive study of the mechanistic actions, therapeutic effects, pharmacodynamics, and toxicological effects of important drug classes.		
Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 750, 751, 780, or 781.		
7500 Pharmacology and Therapeutics IV	G P	8
The fourth in a four-course sequence in pharmacology, pathophysiology and pharmacotherapy providing a comprehensive study of the mechanistic actions, therapeutic effects, pharmacodynamics, and toxicological effects of important drug classes.		
Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 751, 752, 781, or 782.		
7560 Clinical Trials I: Design and Regulation	G P	3
This course provides a fundamental overview of clinical trial design, methods, and regulation with an emphasis on medical product development, clinical trial protocols, preclinical research requirements, and the appraisal of published clinical trials.		
Prereq: Enrollment in the MS Pharmacology program, or permission of instructor. Not open to students with credit for Nursing 7770 or Phr 7770. Cross-listed in BioPhrm and Nursing.		
7561 Clinical Trials II: Site Management and Study Leadership	G P	3
This course provides a fundamental overview of best practices of clinical trial study and site management, including an emphasis on data, safety, and quality management, and study team leadership.		
Prereq: 7560, BioPhrm 7560, or Nursing 7560, or permission of instructor. Not open to students with credit for 7405 or Nursing 7405. Cross-listed in BioPhrm and Nursing.		
7562 Design and Management of Preclinical Studies	G P	3
Fundamental overview of preclinical study design, methods, and regulation with an introduction to the clinical development process. Provides a synopsis of best practices of preclinical trial site and study management, quality and data management, and leadership in the context of preclinical and translational research endeavors.		
Prereq: Admission to the MS Pharmacology program, or permission of instructor.		
7570 Pharmaceutical Safety and Risk Management	G P	3
Comprehensive investigation of pharmacovigilance initiatives and pharmaceutical safety regulation. Pharmaceutical risk management in premarket testing and development, recognition of safety signals, post-approval experience, drug production, risk mitigation, and administration of pharmaceuticals.		
Prereq: 7770, Nursing 7770, or permission of instructor.		
7572 Global Regulation of Medical Products	G	3
Exploring legal issues related to clinical research and regulatory affairs. Examining the role of regulatory authorities, regulations and guidelines (US, EU, and global) in new product development.		
Prereq: 7770 or Nursing 7770, or permission of instructor. Cross-listed in Nursing.		
7580 Principles of Safety Pharmacology	G	3
Introduction to organ system studies of current experimental models, risk assessment, and regulatory guidelines for evaluating drug candidates in various organ systems.		
Prereq: Admission to the MS in Applied Clinical and Preclinical Research program, or permission of instructor.		
7582 Organ System Toxicology	G	3
Actions of drugs on the nervous, cardiovascular, and pulmonary systems, in both normal and disease conditions. Principles of physiology and pharmacology as they relate to adverse and unanticipated drug effects.		
Prereq: Admission to the MS in Applied Clinical and Preclinical Research program, or permission of instructor.		
7583 Advanced Organ Systems Toxicology and Risk Assessment	G P	3
Principles of risk assessment, toxicology, and physiology as they relate to effects of chemical and pharmacologic agents on the blood, immune, ocular, skin, reproductive, endocrine systems. Includes a review of chemical carcinogenesis, genetic, and developmental toxicity as they relate to chemical or drug exposure.		
Prereq: 7582, or permission of instructor.		

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7584	Applied Pharmacokinetics and Pharmacodynamics	G	3	7770	Fundamentals of Medical Product Development and Regulation	G P	3
	Introduction to basic and advanced concepts in pharmacokinetics, pharmacodynamics, and pharmacology for clinical investigators and other research professionals participating in the conduct of clinical trials. Prior coursework in pharmacology recommended.				Function of clinical research in medical product development and the regulatory process of new medical products. Laws and regulations concerning the development, testing, commercialization, and total product life cycle for medical products. Regulations governing the conduct of clinical research, including study sponsors, investigators, and Institutional Review Boards.		
	Prereq: Admission to the MS in Applied Clinical and Preclinical Research program, or permission of instructor. Not open to students with credit for 8020, or 7310 and 7320, or Pharmacy 731, 732, and 733, or 802.				Prereq: Admission to the Master's program in Applied Clinical and Preclinical Research, or permission of instructor. Cross-listed in Nursing.		
7586	Integrative In Vivo Modeling for Drug Development: Application for Safety and Clinical Pharmacology	G P	3	7782	Research Design and Methods for Clinical and Preclinical Research	G P	3
	Evaluating drug effects and animal models for safety and toxicity assessment.				Study of research design and methods used in clinical and preclinical research. Measurement issues, bias and confounding, statistical considerations, evaluation of published clinical and preclinical research designs, and protocol and proposal development.		
	Prereq: 7582, or permission of instructor.				Prereq: Admission to the masters program in Applied Clinical and Preclinical Research program, or permission of instructor. Not open to students with credit for Nursing 7782. Cross-listed in Nursing.		
7588	Toxic Substances	G P	3	7784	Data Analysis and Interpretation in Clinical and Preclinical Research	G P	3
	Survey the effects of toxic substances on biological systems including the mechanism of action for major toxicants, sources of toxicants, signs and symptoms associated with intoxications, and methods of treatment. Substances presented will include those that may be encountered occupationally, environmentally, medically, and in the context of substance abuse.				Introduction to the principles of biostatistical methods used in biomedical research. Analysis of clinical and preclinical research data and interpretation of statistical results in biomedical studies.		
	Recommended prereq: 7582.				Prereq: Enrollment in Master of Applied Clinical and Preclinical Research program, or permission of instructor. Not open to students with credit for PubHBio 6210.		
7599	Capstone in Applied Clinical and Preclinical Research	G	1 - 12	7801	Interprofessional Education I	P	1/2
	Capstone project or practicum for students in the master's program in Applied Clinical and Preclinical Research. Culminating learning activity integrating core and specialization coursework. Capstone project or practicum performed at an organization involved with clinical or preclinical research with the oversight of a faculty advisor and site mentor.				This is the first of a four-course sequence designed to teach PharmD students how to advance collaboration and quality of patient care by providing interprofessional opportunities for students to learn about, from, and with other members of the healthcare team.		
	Prereq: Enrollment in the master's program in Applied Clinical and Preclinical Research, or permission of the program director. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U. Cross-listed in Nursing and BioPhrm.				Prereq: Enrollment in PharmD program. This course is graded S/U.		
7601	Integrated Pharmacotherapy I	P	9½	7802	Interprofessional Education II	P	1/2
	Teach Pharm.D. students pathophysiology, pharmacology, and pharmacotherapy using an integrated approach. This approach facilitates the development of a rigorous understanding of the scientific basis for preventing and managing human health disorders, and the ability to integrate and apply that knowledge while providing exemplary medication-related patient-centered and population-based care.				This is the second of a four-course sequence designed to teach PharmD students how to advance collaboration and quality of patient care by providing interprofessional opportunities for students to learn about, from, and with other members of the healthcare team. This required course will have 3 interactive collaborations per semester.		
	Prereq: Enrollment in PharmD program.				Prereq: Enrollment in PharmD program. This course is graded S/U.		
7602	Integrated Pharmacotherapy II	P	9½	7803	Interprofessional Education III	P	1/2
	This course is designed to help Pharm.D. students develop a rigorous understanding of the scientific basis for preventing and managing human health disorders, and the ability to integrate and apply that knowledge while providing exemplary medication-related patient-centered and population-based care.				This is the third of a four-course sequence designed to teach PharmD students how to advance collaboration and quality of patient care by providing interprofessional opportunities for students to learn about, from, and with other members of the healthcare team. This required course will have 3 interactive collaborations per semester.		
	Prereq: Enrollment in PharmD program.				Prereq: Enrollment in PharmD program. This course is graded S/U.		
7603	Integrated Pharmacotherapy III	P	8	7860	Pharmacy Practice Management	P	4
	This course is designed to help Pharm.D. students develop a rigorous understanding of the scientific basis for preventing and managing human health disorders, and the ability to integrate and apply that knowledge while providing exemplary medication-related patient-centered and population-based care.				The medication use system, resource management, and the economic evaluation of pharmaceutical services and pharmacoepidemiology.		
	Prereq: Enrollment in PharmD program.				Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 786 or 788.		
7620	Topics in Emergency Medicine Pharmacotherapy	P	2	7891	Chromatographic Methods	G	2
	Introduction to the interdisciplinary processes of care in Emergency Medicine and the practice of pharmacy in the Emergency Department. Material will be collaboratively taught by faculty members from the Colleges of Pharmacy, Medicine and Nursing through lecture and round-table discussion with active participation.				A study and application of selected chromatographic techniques for the purification of natural products or other organic mixtures.		
	Prereq: Third year standing in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 762. This course is graded S/U.				Prereq: Grad standing and permission of instructor. Not open to students with credit for Pharmacy 789.		
7630	Nonprescription Therapeutics	P	3	7893	Phytochemical Analysis of Natural Products	G	2
	An overview of non prescription therapeutics with a focus on patient assessment, product recommendations and patient care plans.				This course is intended to provide graduate students with the basic skills to be able to select and apply proper techniques to natural product samples for drug discovery, method design, and validation purposes.		
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 763.				Prereq: Not open to students with credit for Pharmacy 789.		
7702	Program Level Assessment II	P	1/2	7900	Pharmaceutical Jurisprudence	P	2
	The purpose of the PLA is to assess students' competence with knowledge and skills delivered in the P2 year and readiness to proceed in the curriculum.				A study of the laws and regulations relating to the practice of pharmacy.		
	Prereq: Enrollment in PharmD program. This course is graded S/U.				Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 790.		
7740	Professional Practice Laboratory I	P	3	8005	Fundamentals of Drug Disposition	G	3
	The first in a two-course professional practice laboratory sequence. Topics include preparation/dispensing of various dosage forms, communication, use of drug information resources, and use of instruments.				An introduction to concepts in drug disposition. Fundamental concepts in drug absorption, distribution, metabolism and excretion (i.e. pharmacokinetics) will be covered.		
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 774 or 775.				Prereq: Enrollment in the College of Pharmacy.		
7750	Professional Practice Laboratory II	P	3	8008	Pharmaceutical Sciences Research and Communication	G	1
	The second in a two-course professional practice laboratory sequence. Topics include preparation/dispensing of various dosage forms, communication, use of drug information resources, and use of instruments.				An introduction to contemporary concepts in experimental design, data interpretation, and scientific writing in the pharmaceutical sciences. Students will begin to develop their skills in scientific writing, with a particular focus on manuscripts.		
	Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 775 or 776.				Prereq: Enrollment in College of Pharmacy.		
8020	Advanced Pharmacokinetics	G	3				
	Coverage of multiple general areas of pre-clinical, clinical, and population pharmacokinetic data analysis, modeling and PK study design.						
	Prereq: Grad standing or permission of instructor. Not open to students with credit for Pharmacy 802.						

8025 Pharmacometrics

G 3

This is an advanced course focusing on population PK/PD modeling. The course comprises an intensive workshop with hands-on training in the application of pharmacometrics principles and use of statistical modeling software (NONMEM and R).

Prereq: 8020 and Math 2415, or any differential equations course; or permission of instructor.

8041 Introduction to Analysis, Structure and Interpretation of Genomic Data in Life Sciences G 2

The course is to form the first step in a student's development towards being genetically literate. That is, the course assumes no prior knowledge and has no prerequisites beyond those of the College of Pharmacy graduate programs. Over the program of study students will be introduced to concepts of graphical user interfaces (GUIs) and to the R platform for statistical computing.

8070 Advanced Drug Delivery Systems G 2

Topics on drug delivery systems with emphasis on tumor targeted delivery and nanovehicles. Prereq: Grad standing or permission of instructor. Not open to students with credit for Pharmacy 807.

8090 Design and Evaluation of Drug Delivery Systems G 2

Physical and biopharmaceutical principles in the design and evaluation of drug delivery systems.

Prereq: Grad standing or permission of instructor. Not open to students with credit for Pharmacy 809.

8100 Operations Finance and Revenue Cycle G 1½

Provides context, knowledge and specific detailed process recommendations for the financial management of a health system pharmacy services department.

Prereq: Enrollment in the MS in Health-System Pharmacy program, or permission of instructor.

8110 Capital Budgeting and Business Case Development G 1½

Provides context, knowledge and specific detailed process recommendations for the financial management of a health system pharmacy services department.

Prereq: Enrollment in the MS in Health-System Pharmacy program, or permission of instructor.

8120 Information Systems for Health-System Pharmacy G 1½

Provides an advanced understanding of information systems, technology and automation systems for health system pharmacy. Includes the various uses and benefits as well as challenges in implementing new technology.

Prereq: 8160, and enrollment in MS in Health-System Pharmacy program; or permission of instructor.

8130 Advanced Leadership Principles G 1

Discussion of leadership qualities and techniques required to establish a vision and strategic direction for a health system pharmacy or department.

Prereq: Enrollment in MS in Health-System Pharmacy program, or permission of instructor.

8140 Research Methodology G 2

Apply research and design methodology to resolving health system pharmacy issues.

Prereq: Enrolled in MS in Health-Systems Pharmacy, or permission of instructor.

8150 Systems Issues with Medication Safety G 2

Describes the components of an effective system for tracking, trending, and reporting adverse drug events (ADE). Understand the techniques used in investigating the causes of events. Integrate medication safety activities as a component of the organizations' safety culture.

Prereq: Enrolled in MS in Health-System Pharmacy program, or permission of instructor.

8160 Operations Management in Health System Pharmacy G 2

Reviews the medication use system, evidence-based practices in medication use systems management, operations management and compliance with regulatory and accrediting agencies.

Prereq: Must be enrolled in the MS in Health-System Pharmacy program, or permission of instructor. Not open to students with credit for Pharmacy 816 or 825.

8170 Advancement of Patient Care Services G 2

Overview of patient care services and practice models. Discussion of patient care services management in several areas of health system pharmacy. Focus on pharmacy practice model initiative.

Prereq: 8150, 8160, and 8250, and enrollment in MS in Health-System Pharmacy program; or permission of instructor. Not open to students with credit for Pharmacy 817 or 825.

8180 Economic Evaluation of Patient Services G 1½

An overview and appraisal of the economic evaluation of health care programs and services applied to health-systems pharmacy administration.

Prereq: Enrollment in MS in Health-System Pharmacy program, or permission of instructor. Not open to students with credit for Pharmacy 894.

8194 Group Studies in Pharmaceutical Sciences G 1 - 12

Group studies topics in various fields of Pharmacy.

Prereq: Permission of instructor. Not open to students with credit for Pharmacy 894.

Repeatable to a maximum of 12 cr hrs or 12 completions.

8250 Pharmaceutical Supply Chain Principles for Health System Pharmacy G 2

Exposure to the key stakeholders in the pharmaceutical supply chain and factors affecting its integrity. Basic concepts in drug procurement and inventory control.

Prereq: 8150, and enrollment in the MS in Health-System Pharmacy program; or permission of instructor.

8320 Biomedicinal Chemistry for Graduate Students

G 5

This course is specifically targeted for students in the pharmaceutical sciences graduate program. It is intended to provide a fundamental biochemistry background in modern molecular life sciences, enabling students to comprehend principles of drug action covered in other courses.

Prereq: Enrollment in the College of Pharmacy graduate program or permission of instructor.

8350 Advanced Medicinal Chemistry I

G 2

Selected topics in medicinal chemistry, the subject matter being drawn from the current literature.

Prereq: Grad standing and permission of instructor. Not open to students with credit for Pharmacy 836.

8370 Chemotherapy of Infectious Diseases

G 2

Introduction to major classes of anti-infectious drugs including mechanism of action and new drug discovery.

Prereq: Grad standing or permission of instructor. Not open to students with credit for Pharmacy 837.

8380 Advanced Medicinal Chemistry: Structure-based Computer-aided Molecular Design

G 2

Molecular dsgn covering molecular structure, basic quantum chem, molecular mechanics, conformational sampling, molecular docking, scoring function, molecular dynamics, free energy calculation, virtual screening, fragment-based dsgn, protein dsgn.

Prereq: Not open to students with credit for Pharmacy 835.

8390 Recent Advances in Pharmacognosy

G 2

Recent advances in pharmacognosy and natural products chemistry will be explored. Students will gain a more profound understanding of the contemporary scientific literature on natural products. Taught in alternate years.

Prereq: Permission of instructor. This course is graded S/U.

8510 Advanced Pharmacognosy

G 2

The study of research involving biosynthesis of plant constituents of pharmaceutical interest.

Prereq: Not open to students with credit for Pharmacy 851.

8520 Research Ethics

G P 1

Basic concepts of integrity in the process of research. The course fulfills NIH requirement for research ethics.

Repeatable to a maximum of 20 cr hrs. This course is progress graded (S/U).

8700 Theoretical and Experimental Pharmacology

G 2

Theoretical basis of pharmacologic sciences including signal transduction, dose-response curves and drug-receptor interactions.

Prereq: Not open to students with credit for Pharmacy 870 or 871.

8710 Graduate Pharmacology I

G 3

Provides a study of mechanisms of therapeutic and toxic effects of important drug classes. The course includes basic principles and a focus on cardiovascular, endocrine, gastrointestinal drugs and anti-inflammatory agents.

Prereq: Grad standing. Not open to students with credit for Pharmacy 747, 748, 750, or 751.

8720 Graduate Pharmacology II

G 3

The second course in pharmacology will provide a study of mechanisms of therapeutic and toxic effects of important drug classes. This course will focus on central nervous and pulmonary systems, and on anti-microbial and cancer chemotherapy.

Prereq: Grad standing. Not open to students with credit for Pharmacy 748, 749, 751, or 752.

8730 Contemporary Pharmacology

G 1

Presentation and discussion related to current topics in pharmacology.

Repeatable to a maximum of 20 cr hrs.

8740 History of Pharmacology and Drug Discovery

G P 1

Gain an understanding of the history of drugs and chemical and develop an essential breadth of knowledge in pharmacological sciences. Focus is on the historical key events, times, places and contributing scientists and provide a historical perspective essential for deeper analysis of scientific knowledge in therapeutics.

Prereq: Enrollment in Graduate Program, or Rank 2 or Rank 3 in PharmD program. Not open to students with credit for Pharmacy 874.

8750 Molecular and Cellular Pharmacology I

G 2

Relates to primary literature-based understanding of molecular and cellular basis of gene regulation, signal transduction, protein function and modifications, cell survival, intracellular trafficking and cytoskeletal dynamics. Importantly, the key pharmacological tools/techniques/drug actions employed in these fields will be discussed.

Prereq: 8700; and enrollment in the College of Pharmacy or permission of instructor.

8760 Molecular and Cellular Pharmacology II

G 2

This course relates to primary literature-based understanding of biochemistry and physiology of excitable tissues with an emphasis on mechanism of drug action. The content emphasizes tools/techniques/drug actions relative to ion channels and excitability, heart rhythm, muscle contraction, learning and memory, and pain.

Prereq: 8700; and enrollment in the College of Pharmacy or permission of instructor.

354 Pharmacy

8880.01 All College Seminar: Presentation	G	½	1332 Ethics in the Professions: Introduction to Engineering Ethics	U	3			
Presentation of oral and written reports dealing with recent advances in the pharmaceutical sciences.								
Prereq: Not open to students with credit for Pharmacy 850.01. Repeatable to a maximum of 20 cr hrs.								
8880.02 All College Seminar: Participation	G	½	1337 Ethics in the Professions: Introduction to Computing Ethics	U	3			
Participation and discussion of research and recent advances in the pharmaceutical sciences.								
Prereq: Not open to students with credit for Pharmacy 850.02. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.								
8881.01 Medicinal Chemistry: Seminar Presentation	G	½	This course is an introduction to ethical theory with a special focus on ethical issues that arise in the computing profession.					
Presentation of oral and written report dealing with recent advances in medicinal chemistry and pharmacognosy.								
Prereq: Not open to students with credit for Pharmacy 850.01. Repeatable to a maximum of 20 cr hrs.								
8881.02 Medicinal Chemistry: Seminar Participation	G	½	Prereq: Not open to students with credit for 1300 (130) or 1332 (131.01) or 1338. GE cultures and ideas course.					
Participation in and discussion of research and recent advances in medicinal chemistry and pharmacognosy.								
Prereq: Not open to students with credit for Pharmacy 850.02. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.								
8882.01 Pharmaceutics: Seminar Presentation	G	½	1338 Ethics in the Professions: Introduction to Computing Ethics and Effective Presentation	U	4			
Presentation of oral and written reports dealing with recent advances in pharmaceutics.								
Prereq: Not open to students with credit for Pharmacy 850.01. Repeatable to a maximum of 20 cr hrs.								
8882.02 Pharmaceutics: Seminar Participation	G	½	An introduction to ethical theory with a special focus on ethical issues that arise in the computing profession. It includes student presentations and feedback to improve discussion skills.					
Participation and discussion of research and recent advances in the field of pharmaceutics.								
Prereq: Not open to students with credit for Pharmacy 850.02. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.								
8884 Seminar: MS in Health-System Pharmacy	G	1	1500.01 Introduction to Logic	U	3			
Issues and new information for health system pharmacy will be presented by MS candidates, faculty and guest speakers covering therapeutic updates, project proposals and final results, and current topics.								
Prereq: Enrollment in MS Health-System Pharmacy program, or permission of instructor. Not open to students with credit for Pharmacy 850.02. Repeatable to a maximum of 20 cr hrs.								
8885.01 Pharmacology Seminar: Presentation	G	½	Deduction and induction; principles of clear statement and valid reasoning; fallacies; and the methods by which theories and laws are established.					
Presentation of oral and written reports dealing with recent advances in pharmacology.								
Prereq: Not open to students with credit for Pharmacy 850.01. Repeatable to a maximum of 20 cr hrs.								
8885.02 Pharmacology Seminar: Participation	G	½	Prereq: Math 1060 or 1075 or equiv; or an ACT Math subscore of 22 or higher; or Math Placement Level R or better. Not open to students with credit for 1500 (150), 1500.02, or 1501 (151). GE quant reason math and logical anyl course.					
Participation and discussion of research and recent advances in the field of pharmacology.								
Prereq: Not open to students with credit for 850.02. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.								
8993 Individual Study in the Pharmaceutical Sciences	G	1 - 20	1500.02 Introduction to Logic	U	3			
Initial research in the pharmaceutical sciences, pre-candidacy.								
Repeatable to a maximum of 20 cr hrs or 20 completions. This course is progress graded (S/U).								
8999 Research in the Pharmaceutical Sciences	G	1 - 20	Online version of Philosophy 1500.01, Introduction to Logic. Teaches students the construction and evaluation of deductive and inductive arguments; principles of clear statement and valid reasoning; fallacies; and the methods by which theories and laws are established.					
Research for thesis or dissertation purposes only.								
Repeatable to a maximum of 20 cr hrs or 20 completions. This course is progress graded (S/U).								

Philosophy

1100 Introduction to Philosophy	U	3	1501 Introduction to Logic and Legal Reasoning	U	3			
Examination of major problems, such as the nature of reality, knowledge, truth, morality, and the relation of philosophy to science and religion.								
Prereq: Not open to students with credit for 101 or 101H. GE cultures and ideas course.								
1100H Introduction to Philosophy	U	3	1520 Probability, Data, and Decision Making	U	3			
Examination of major problems, such as the nature of reality, knowledge, truth, morality, and the relation of philosophy to science and religion.								
Prereq: Honors standing or permission of department or instructor. Not open to students with credit for 101 or 101H. GE cultures and ideas course.								
1300 Introduction to Ethics	U	3	How to make rational decisions when confronted by uncertainty; foundational issues and techniques pertaining to probability, selection of utilities and analysis of data relevant to decision making.					
The nature of right and wrong, good and evil; the grounds of moral choice and decision; the resolution of moral conflicts.								
Prereq: Not open to students with credit for 130 or 130H. GE cultures and ideas course.								
1300H Introduction to Ethics	U	3	Prereq: Math 1075 or equiv, or an ACT Mathematics Subscore of 22 or higher, or Math Placement Level R or better. Not open to students with credit for 153. GE data only course.					
The nature of right and wrong, good and evil; the grounds of moral choice and decision; the resolution of moral conflicts.								
Prereq: Honors standing or permission of instructor. Not open to students with credit for 130 or 130H. GE cultures and ideas course.								
2400 Political and Social Philosophy	U	3	2120 Asian Philosophies	U	3			
Philosophical bases of social and political institutions and practices; analysis of such fundamental conceptions as rights, justice, equality, political obligation, and civil disobedience.								
Prereq: English 1110.xx or 1110.xxH, or equiv. Not open to students with credit for 230. GE cultures and ideas course.								
2450 Philosophical Problems in the Arts	U	3	2194 Group Studies	U	1 - 3			
Introduction to major philosophical issues in the arts; examination of artistic intention, representation v. abstraction, the grounds and objectives of art criticism, the import of cultural differences and their application to specific works of art.								
Prereq: Not open to students with credit for 240 or 240H. GE VPA course.								

2455	Philosophy and Videogames	U	3		3120	Engaging Time: Philosophical and Rabbinic Dimensions of Temporality	U	3
	Examination of the philosophical issues that accompany the creation, play, and critique of videogames.				This course introduces time through western philosophy and classical Jewish law, understood within its Near Eastern contexts. Topics include: how do we measure time; is time real or is it the result of subjective perception; how do perceptions of time affect one's religious life; does God know the future, and if so, are human beings free. Team-taught with faculty in Hebrew.			
	GE VPA and cultures and ideas course.				Prereq: Not open to students with credit for Hebrew 3120. GE cultures and ideas course. Cross-listed in Hebrew.			
2465	Death and the Meaning of Life	U	3		3210	History of Ancient Philosophy	U	3
	Explore the question of whether there is a relation between mortality and a meaningful life. GE lit course.				Major figures and issues in Greek philosophy: presocratics, Socrates, Plato, Aristotle. Prereq: 3 cr hrs in Philos, or permission of instructor. GE lit and diversity global studies course.			
2470H	Honors Philosophy of Film	U	3		3220	History of Medieval Philosophy	U	3
	An introduction to philosophical and aesthetic issues involved with film as an art and as an expressive medium.				Major figures in medieval philosophy, including Augustine, Aquinas, Duns Scotus, and Ockham.			
	Prereq: Honors standing or permission of instructor. Not open to students with credit for 242H. GE VPA course.				Prereq: 3 cr hrs in Philos other than 1500, or permission of instructor. Not open to students with credit for 302. GE lit and diversity global studies course.			
2500	Symbolic Logic	U	3		3230	History of 17th-Century Philosophy	U	3
	A formal presentation of the elements of modern deductive logic; decision and proof procedures in sentential logic and functional logic.				Major figures in early modern philosophy: Descartes, Hobbes, Spinoza, Locke, and Berkeley. Prereq: 3 cr hrs in Philos other than 1500, or permission of instructor. Not open to students with credit for 303. GE lit and diversity global studies course.			
	Prereq: Math 1075 or equiv, or an ACT Math Subscore of 22 or higher that is less than 2 years old. Not open to students with credit for 250. GE quant reason math and logical only course.				3240	History of 18th-Century Philosophy	U	3
2650	Introduction to the Philosophy of Science	U	3			Major figures in European philosophy in the 17th and 18th centuries. Background in 3230 strongly recommended.		
	A survey of the main philosophical problems relating to the natural sciences.					Prereq: 3 cr hrs in Philos other than 1500, or permission of instructor. Not open to students with credit for 304. GE lit and diversity global studies course.		
	Prereq: 3 cr hrs in logic or Math above 1075, an ACT Math Subscore of 22 or higher, or Math Placement Level R or better, and 3 cr hrs in natural science, or permission of instructor. Not open to students with credit for 255.				3250	History of 19th-Century Philosophy	U	3
2660	Metaphysics, Religion, and Magic in the Scientific Revolution	U	3			Major figures in 19th-century German idealism.		
	A philosophical examination and critical exploration of the interconnection between the natural scientific, religious and magical traditions in the emergence of the Scientific Revolution.					Prereq: 3 cr hrs in Philos, or permission of instructor. GE lit and diversity global studies course.		
	Prereq: Not open to students with credit for 280. GE historical study course.				3260	Movements in 20th-Century Philosophy	U	3
2670	Science and Religion	U	3			Three or more of the following Anglo-American and European philosophical movements will typically be surveyed: existentialism, philosophical analysis, positivism, Marxism, pragmatism, linguistic philosophy.		
	A philosophical examination of the relationship between science and religion, concentration on issues regarding the creation of the universe and the origins of life.					Prereq: Not open to students with credit for 518.		
	Prereq: Not open to students with credit for CompStd 2670 or RelStd 2670. GE cultures and ideas course. Cross-listed in RelStd.				3261	Fundamental Concepts of Existentialism	U	3
2680	Scientific Controversies	U	3			Key concepts of the movement: commitment, absurdity, freedom, and death, as expressed in the works of Nietzsche, Sartre, Camus, Kierkegaard, and others.		
	Modern science raises many difficult questions about the nature of the universe and our place in it. This class considers several controversies that arise within science and investigates their broader philosophical significance. How does science work in different domains and at different times, and what can science tell us about ourselves and the nature of the world?					Prereq: 3 cr hrs of Philos other than 1500, or permission of instructor. Not open to students with credit for 306. GE lit course.		
2850	Introduction to Philosophy of Religion	U	3		3300	Moral Philosophy	U	3
	A philosophical analysis of the nature of religion and the foundations of religious belief.					A rigorous examination of major issues in moral philosophy, such as the basic moral value(s); the relation between value and obligation; justification of moral judgment.		
	GE cultures and ideas course.					Prereq: 6 cr hrs of Philos course work, or enrollment in Philosophy, Politics, and Economics Major, or permission of instructor.		
2900H	Freshman-Sophomore Proseminar	U	3		3310	Morality and the Mind	U	3
	Topic varies; emphasis on current philosophical problems.					An introduction to issues in moral psychology including various interactions between moral philosophy and issues in psychology and cognitive science.		
	Prereq: Fresh or soph standing; and CPHR 3.00 or above, Honors standing, or permission of instructor. Not open to students with credit for 4900H. Repeatable to a maximum of 9 cr hrs.					Prereq: 3 cr hrs in Philos other than 1500 or 1501, or permission of instructor.		
3000	Gateway Seminar	U	3		3341H	Ethical Conflicts in Health Care Research, Policy, and Practice	U	3
	The primary purpose of the gateway seminar is to give students intensive training in reading, researching, and writing about philosophy. Topics will vary.					An interdisciplinary approach to an analysis of central moral dilemmas in health care research, policy, and practice.		
	Prereq: Philos major, or permission of instructor.					Prereq: Honors standing; or Jr or Sr standing and permission of department or instructor. Not open to students with credit for 580H.		
3001	Economy, Polity, and Community	U	3		3410	Philosophical Problems in the Law	U	3
	Examines how different ways of thinking about human nature shape our understanding of philosophy, politics, and economics.					Introduction to the nature of law and the philosophical and moral problems concerning law; justification of civil disobedience, criminal punishment, plea bargaining, and the enforcement of morality.		
	Prereq: Econ 2001.XX or 2002.01 or 2002.03H; and Philos 2400 or PolitSc 2400 or 2400H; and Econ 3400 or IntStd 3400 or PolitSc 3780 or 3780H; and PolitSc 4280 or 4380. Not open to students with credit for Econ 3001 or PolitSc 3001. Cross-listed in Econ and PolitSc.					Prereq: Not open to students with credit for 338.		
3002	Tradition, Progress, and Utopia	U	3		3420	Philosophical Perspectives on Issues of Gender	U	3
	Examines how different ways of thinking about social and political change shape our understanding of philosophy, politics, and economics.					An examination of metaphysical, epistemological, and ethical issues surrounding sex and gender, with issues chosen to represent both theoretical and practical controversies.		
	Prereq: Econ 2001.XX or 2002.01 or 2002.03H; and Philos 2400 or PolitSc 2400 or 2400H; and Econ 3400 or IntStd 3400 or PolitSc 3780 or 3780H; and PolitSc 4280 or 4380. Not open to students with credit for Econ 3002 or PolitSc 3002. Cross-listed in Econ and PolitSc.					Prereq: English 1110 or equiv. Not open to students with credit for 336. GE cultures and ideas and diversity soc div in the US course.		
3111	Introduction to Jewish Philosophy	U	3		3430	The Philosophy of Sex and Love	U	3
	A general introduction to major figures and trends in medieval, modern, and contemporary Jewish philosophy; emphasis on Philo, Saadia, Maimonides, Spinoza, Mendelssohn, and Buber.					This course will explore both historical and contemporary philosophical perspectives on both sex and love.		
	Prereq: Not open to students with credit for 321 and JewshSt 3111. GE cultures and ideas course. Cross-listed in JewshSt.					Prereq: 3 cr hrs in Philos, or permission of instructor.		
3440	Theorizing Race	U	3					
	Introduction to issues of "race," consideration of the historical emergence and development of ideas of "race" and of racist practices, along with their contemporary formations.					Prereq: GE second writing course or Philos 2400, or Jr standing or above, or permission of instructor. Not open to students with credit for AfAmAST 3440. Cross-listed in AfAmAST.		

356 Philosophy

3530	Philosophy of Logic	U	3	5193	Individual Studies	U G	1 - 6
	Introduction into a variety of distinctly philosophical issues related to logic and its formal development. Presupposes a background in formal logic.				Individual Studies. Students ordinarily earn from 1 to 3 cr hrs, but honors students may earn up to 6 cr hrs.		
	Prereq: 2500 (250). Not open to students with credit for 450.				Prereq: Permission of dept chairperson. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.		
3600	Introduction to Philosophy of Language	U	3	5194	Group Studies	U G	1 - 9
	Survey of philosophical issues regarding the nature of linguistic representation and its role in thought and communication.				Group Studies.		
	Prereq: 2500 and 6 cr hrs of Philos course work exclusive of 1500, or permission of instructor. Not open to students with credit for 473.				Prereq: Permission of chairperson. Repeatable to a maximum of 18 cr hrs or 6 completions.		
3650	Philosophy of Science	U	3	5211	Plato	U G	3
	A rigorous introduction to general methodological issues in the philosophy of science.				A survey of central philosophical themes in one or more Platonic dialogues.		
	Prereq: 2500 and either a major in Philos or 9 cr hrs of Philos course work exclusive of 1500; or permission of instructor. Not open to students with credit for 455.				Prereq: 3210, or 6 cr hrs at the 2000 level or above in Philos coursework, or Grad standing in Philos; or permission of instructor. Not open to students with credit for 601.01.		
3680	Sex and Death: Introduction to the Philosophy of Biology	U	3	5212	Aristotle	U G	3
	A survey of philosophical questions regarding the theoretical foundations and implications of research in biology.				A survey of central philosophical themes in one or more Aristotelian treatises.		
	Prereq: Philos major or 9 cr hrs of Philos course work exclusive of 1500 and 1501; or permission of instructor. Not open to students with credit for 458.				Prereq: 3120 or 6 cr hrs at the 2000 level or above in Philos coursework, Grad standing in Philos, or permission of instructor. Not open to students with credit for 601.02.		
3700	Introduction to Metaphysics	U	3	5230	Studies in 17th-Century Philosophy	U G	3
	Survey of main philosophical positions concerning the nature of reality, persons, freedom, identity, and causation.				An intensive examination of a major philosopher or philosophical problem of the rationalist period; topics vary from semester to semester.		
	Prereq: 6 cr hrs of Philos course work, or permission of instructor.				Prereq: 3230 and 6 cr hrs of Philos course work at the 2000 level or above; or Grad standing in Philos; or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
3750	Introduction to Theory of Knowledge	U	3	5240	Studies in 18th-Century Philosophy	U G	3
	Survey of main philosophical positions concerning knowledge, justification, skepticism, and rationality.				An intensive examination of a major philosopher or philosophical problem of the period; topics vary from semester to semester.		
	Prereq: Philos major, or 9 cr hrs of Philos course work exclusive of 1500, or permission of instructor. Not open to students with credit for 460.				Prereq: 3240 and 6 cr hrs of Philos course work at the 2000 level or above; or Grad standing in Philos; or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
3800	Introduction to Philosophy of Mind	U	3	5241	Studies in 18th Century Philosophy: Kant	U G	3
	General introduction to the philosophy of mind, the mind-body problem, intentionality, and the nature of consciousness.				An intensive examination of one or more important themes in Kant's philosophical writings.		
	Prereq: Philos major, or 9 cr hrs of Philos course work exclusive of 1500, or permission of instructor. Not open to students with credit for 467.				Prereq: 3230 or 3240, and 6 cr hrs of Philos course work at the 2000 level or above; or Grad standing in Philos; or permission of instructor. Not open to students with credit for 604.01		
3810	Philosophy of Action	U	3	5250	Studies in 19th-Century Philosophy	U G	3
	Philosophical examination of the nature of human action. Topics include the nature of intention, practical rationality, issues in moral psychology, and the metaphysics of free will.				An intensive examination of a major philosopher or philosophical problem of the period; topics vary from semester to semester.		
	Prereq: 6 cr hrs of Philos course work, or enrollment in Philosophy, Politics, and Economics Major, or permission of instructor.				Prereq: 3250 and 6 cr hrs of Philos course work at the 2000 level or above; or Grad standing in Philos; or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
3830	Consciousness	U	3	5260	Studies in 20th-Century Philosophy	U G	3
	An introduction to consciousness with a focus on the interactions between philosophy, psychology, and neuroscience.				An intensive examination of one or more central movement in 20th-century philosophy; topics vary.		
	Prereq: 3 cr hrs in Philos other than 1500 or 1501, or permission of instructor.				Prereq: 9 cr hrs of Philos course work at the 2000 level or above; or Grad standing in Philos; or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
4900H	Junior-Senior Proseminar	U	1 - 3	5261	Phenomenology and Existentialism	U G	3
	Topics vary; emphasis on recent philosophical writing in some specific area or on some specific problem.				Early existentialist ideas of Kierkegaard and Nietzsche; Husserl's phenomenological method and critical analysis of works of philosophers such as Heidegger, Jaspers, Sartre, Beauvoir, and others.		
	Prereq: Honors standing and 6 cr hrs in Philos 2000 level or above coursework, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 5 completions.				Prereq: 3 cr hrs of Philos exclusive of 1500 and 2500; or Grad standing; or permission of instructor. Not open to students with credit for 506.		
4998	Undergraduate Research in Philosophy	U	1 - 3	5300	Advanced Moral Philosophy	U G	3
	Undergraduate research in various topics; independent study.				An intensive examination of major issues within moral philosophy such as the foundations of morality; objectivity in ethics; morality, reason and sentiment; virtues and vices.		
	Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.				Prereq: 3300, and 6 cr hrs in Philos at or above 2000-level; or Grad standing in Philos; or permission of instructor. Not open to students with credit for 631.		
4998H	Honors Undergraduate Research in Philosophy	U	1 - 3	5310	Metaethics	U G	3
	Undergraduate research in variable topics; independent study.				This course addresses abstract questions about the nature of moral thinking - such as whether moral facts exist, how to understand the contrast between moral and purely descriptive language and beliefs, and how moral judgments can be justified at all.		
	Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.				Prereq: 3300, and 6 cr hrs in Philos at or above 2000-level; or Grad standing in Philos; or permission of instructor.		
4999	Thesis Research	U	1 - 3	5400	Advanced Political and Social Philosophy	U G	3
	A program of reading arranged for each student, with individual conferences, reports, and papers.				An intensive examination of issues in political and social philosophy, including democracy, civil disobedience, anarchism, totalitarianism, and nature of the state.		
	Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.				Prereq: 2400, or 6 cr hrs in Philos at or above 2000-level; or enrollment in Philosophy, Politics, and Economics Major; or Grad standing in Philos; or permission of instructor.		
4999H	Honors Thesis Research	U	1 - 3	5450	Advanced Aesthetic Theory	U G	3
	A program of reading arranged for each student, with individual conferences, reports, and papers. Failure to receive a mark of S in this course is a disqualification for special honors.				Basic issues in philosophy of art: the definition of art; meaning, truth, and representation in art; the nature and basis of criticism; the criteria of interpretation of works of art.		
	Prereq: Sr standing with a grade of A in at least half of the Philos courses taken and with an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. At least 1 semester is required of candidates for the BA with distinction in Philos. Repeatable to a maximum of 9 cr hrs and 3 completions. This course is graded S/U.				Prereq: 9 cr hrs in Philos at or above 2000-level; or Grad standing in Philos; or permission of instructor. Not open to students with credit for 640.		
5010S	Teaching Philosophy	U G	3	5460	Philosophy in Literature	U G	3
	Design a set of philosophy lessons and team-teach some of these lessons to secondary school students. Background checks will be required; students may be responsible for associated fees.				Philosophical problems as reflected in classics of literature, such as the Greek dramatists, Shakespeare, Voltaire, T. S. Eliot, Proust, and Tolstoy.		
	Prereq: 6 cr hrs of Philos course work at the 2000-level or above, or Grad standing in Philos, or permission of instructor. GE service learning course.				Prereq: 6 cr hrs in Philos at or above 3000-level; or Grad standing; or permission of instructor. Not open to students with credit for 672.		

5500	Advanced Symbolic Logic	U G	3
Introduction to the metatheory of first-order logics and languages; axiomatic development of propositional and predicate logic; model theory; soundness, completeness, and Lowenheim-Skolem theorems.			
Prereq: 2500. Not open to students with credit for 650.			
5510	Nonclassical Logic	U G	3
Study of selected systems of nonclassical logic, such as entailment systems, modal, many-valued, epistemic deontic, imperative, erotetic, tense and free logics.			
Prereq: 5500. Repeatable to a maximum of 6 cr hrs or 2 completions.			
5530	Philosophy of Logic and Mathematics	U G	3
Analysis of basic concepts used in logic and in philosophical claims about logic and mathematics, such as proposition, logical truth, mathematical objects, and necessity.			
Prereq: Not open to students with credit for 654.			
5540	Theory of Rational Choice	U G	3
Introduction to the principles and methods of the theory of rational choice with applications in the theory of knowledge, ethics, and social and political philosophy.			
Prereq: Jr standing or above; or permission of instructor. Not open to students with credit for 553.			
5550	Advanced Logical Theory	U G	3
Topics include formal arithmetic, recursive functions, Turing machines, Gödel's incompleteness theorems, Church's thesis, arithmetical truth, logical paradoxes, and higher-order logic.			
Prereq: 2500 and 5500. Repeatable to a maximum of 9 cr hrs or 3 completions.			
5600	Advanced Philosophy of Language	U G	3
Basic problems and results in the philosophy of language, concentrating on theories of reference, theories of meaning, and theories of language-use (including speech-acts, implicature). Preferable to have credit for 3600 prior to enrollment.			
Prereq: 2500, and 6 cr hrs in Philos at or above 3000-level; or Grad standing in Philos; or permission of instructor. Not open to students with credit for 673.			
5610	Natural Language Metaphysics	U G	3
Natural languages seem to presuppose that the world is a certain way. In many cases, the presuppositions are philosophically (or scientifically) contentious. We will explore a variety of such cases, noting the ramifications for both metaphysics and for semantics. Team-taught course with faculty member in Linguistics.			
Prereq: Philos 2500, and 6 cr hrs in Philos at 3000-level or above; or Ling 5001 or 5401; or Grad standing in Philos; or permission of instructor. Ling 5410 and Philos 5610 repeatable to a maximum of 6 cr hrs. Cross-listed in Ling 5410.			
5650	Advanced Philosophy of Science	U G	3
A study of the nature and structure of scientific concepts, laws, and theories; appraisal of methodologies, presuppositions, and frames of reference in science. Preferable to have credit for 3650 prior to enrollment.			
Prereq: 2500, and 6 cr hrs in Philos at or above 3000-level; or 2500, and Grad standing in Philos; or permission of instructor. Not open to students with credit for 655.			
5700	Advanced Metaphysics	U G	3
An intensive examination of major metaphysical problems: categories, universals, substance and process, causality and law, space and time, metaphysical presuppositions of knowledge. Preferable to have credit for 3700 prior to enrollment.			
Prereq: 2500, or 6 cr hrs in Philos at or above 3000-level; or Grad standing; or permission of instructor. Not open to students with credit for 663.			
5750	Advanced Theory of Knowledge	U G	3
An intensive examination of major epistemological problems: the possibility, origin, foundation, structure, methods, limits, types, and validity of knowledge. Preferable to have credit for 3750 prior to enrollment.			
Prereq: 2500, and 6 cr hrs in Philos at or above 3000-level; or Grad standing; or permission of instructor. Not open to students with credit for 660.			
5830	Introduction to Cognitive Science	U G	3
Cognitive science is an interdisciplinary study of the nature of human thought; psychological, philosophical, linguistic, and artificial intelligence approaches to knowledge representation.			
Prereq: 9 cr hrs from at least two of these areas: CSE, Ling, Philos or Psych; or permission of instructor. Not open to students with credit for CSE 5531, Ling 5612, or Psych 5612 (612). Cross-listed in CSE, Ling, and Psych.			
5840	Advanced Philosophy of Cognitive Science	U G	3
In-depth examination of the influence of results in cognitive science upon the way in which philosophers approach fundamental issues about the nature of the mind.			
Prereq: 3800, or permission of instructor. Not open to students with credit for 620.			
5850	Philosophy of Religion	U G	3
A study of religious concepts and problems; the idea and nature of God, of humans, their relation to the world and human destiny.			
Prereq: 6 cr hrs in Philos at or above 3000-level; or Grad standing; or permission of instructor. Not open to students with credit for 670.			
5891	Proseminar in Cognitive Science	U G	2
Provides an in-depth examination of cognitive science from an interdisciplinary perspective.			
Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs. Cross-listed in CSE, Ling, Psych, and SphHrg.			

8100	First-Year Seminar	G	4
A topically variable introduction to advanced philosophical methodology.			
Prereq: First year of Grad standing. Not open to students with credit for 700.			
8102	Seminar in East Asian Philosophy	G	3
Seminar focusing on a particular thinker, school of philosophy, or set of texts from the East Asian philosophical tradition. Topics vary.			
Prereq: Grad standing in Philos, or permission of instructor. Repeatable to a maximum of 9 cr hrs. Cross-listed in CompStd 8896 and EALL 8896.			
8193	Individual Studies	G	1 - 9
Doctoral students may register for individual study in areas not normally covered by courses.			
Prereq: MA degree, or at least 30 cr hrs in Grad; and permission of dept chairperson.			
Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.			
8200	Seminar in History of Philosophy	G	1 - 4
Seminar in History of Philosophy.			
Prereq: Grad standing in Philos, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.			
8300	Seminar in Value Theory	G	1 - 4
Seminar in Value Theory.			
Prereq: Grad standing in Philos, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.			
8500	Seminar in Logic	G	1 - 4
Seminar in Logic.			
Prereq: Grad standing in Philos, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.			
8510	Seminar in Topics in Logic	G	1 - 4
Selected topics in logic and philosophy of logic; topics vary.			
Prereq: Grad standing in Philos, or permission of instructor.			
8600	Seminar in Philosophy of Language	G	1 - 4
Seminar in Philosophy of Language.			
Prereq: Grad standing in Philos, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.			
8650	Seminar in Philosophy of Science	G	1 - 4
Seminar in Philosophy of Science.			
Prereq: Grad standing in Philos, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.			
8700	Seminar in Metaphysics	G	1 - 4
Seminar in Metaphysics.			
Prereq: Grad standing in Philos, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.			
8750	Seminar in Theory of Knowledge	G	1 - 4
Seminar in Theory of Knowledge.			
Prereq: Grad standing in Philos, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.			
8800	Seminar in Philosophy of Mind	G	1 - 4
Selected topics in philosophy of mind; topics vary.			
Prereq: Grad standing in Philos, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.			
8999	Dissertation Research in Philosophy	G	1 - 9
Research for dissertation purposes only.			
Prereq: Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.			
Physical Medicine And Rehabilitation			
7999	Research in Physical Medicine and Rehabilitation	G	1 - 15
Research for thesis purposes only.			
Prereq: Grad or Prof standing, and permission of instructor. This course is graded S/U.			
Physical Therapy			
6021	Introduction to the Physical Therapy Profession	G	1
Introduction to the profession of physical therapy. Information pertaining to professional development, teaching and learning, social responsibility and individual, cultural and age related variations pertaining to the practice of PT.			
Prereq: Enrollment in the Doctorate in Physical Therapy program.			
6189	Integrated Clinical Experience	G	1
Part-time clinical experience assigned at an affiliated outpatient facility in central Ohio with the goal of practicing techniques from the musculoskeletal lab and documentation.			
Repeatable to a maximum of 2 cr hrs.			
6250	Neural Basis of Movement	G	2
Introduction to sensory and motor systems, basis of the neurologic screening examination and principles of motor control theory.			
Prereq: Enrollment in Doctorate in Physical Therapy program.			

358 Physical Therapy

6260 Pathology for Physical Therapists	G	2	8070 Management: Administrative Skills	G	3	
Introduction to pathology and medical management of disease and implications for the physical therapist.						
Prereq: Enrollment in Doctorate in Physical Therapy program.						
6410 Principles and Procedures in Physical Therapy Practice I	G	1	8071 Management II: Administrative Skills	G	2	
Introduction to basic patient handling skills and clinical measurement.						
Prereq: Enrollment in Doctorate in Physical Therapy program.						
6415 Principles and Procedures in Physical Therapy Practice II	G	1	Administrative skills for the management of PT practice in various settings, introduce basic principles of administration and management that are applicable to PT practice.			
Advances the principles and skills for patient management and measurement acquired in Principles and Procedures in Physical Therapy Practice I.						
Prereq: Enrollment in the Doctorate in Physical Therapy program.						
6589 Service Based Clinical Experience	G	½ - 2	8189 Terminal Clinical Internship I	G	8	
In accordance with the mission and philosophy of the professional education program which is to prepare the student for entry-level competence in the practice of physical therapy, this course is designed to provide the student with a service based clinical experience reflecting didactic preparation to date. Clinical experiences with direct patient/client care are supervised by a licensed physical therapist at a clinical site that has been approved by and has a contract of affiliation with the Physical Therapy Division.						
This course is graded S/U.						
7012 Documentation and Reimbursement	G	1	8193 Individual Studies in Physical Therapy	G	1 - 3	
Clinical decision making and professional communication through documentation and reimbursement of clinical activities, including evaluation, goal setting and prognosis.						
Prereq: Enrollment in the Doctorate in Physical Therapy program.						
7189 Intermediate Clinical Internship I	G	4	8210 Musculoskeletal Diagnosis and Management II	G	6	
Full-time clinical rotation completed in an affiliated outpatient facility with the focus on patients with musculoskeletal impairments.						
Repeatable to a maximum of 8 cr hrs.						
7220 Musculoskeletal Diagnosis and Management I	G	4	Region-specific application of the knowledge acquired in Musculoskeletal Diagnosis and Management I, gait analysis, and an introduction to acute care, integumentary system management, and oncology.			
The scientific basis for management of the client with pathology of the musculoskeletal system.						
Prereq: Enrollment in the Doctorate in Physical Therapy program.						
7235 Biomechanics for Physical Therapy	G	3	8230 Clinical Applications in Pediatrics	G	3	
Introduction the musculoskeletal structure and function, the biomechanical basis of human movement, and musculoskeletal disease and injury processes.						
Prereq: Enrollment in the Doctorate in Physical Therapy program.						
7250 Neurologic Basis of Rehabilitation	G	2	8250 Adult Neurologic Rehabilitation	G	5	
Analysis of normal and pathological neural systems for sensory and motor functions, mechanisms of recovery of function associated with rehabilitation, and introduction to neural development.						
Prereq: Enrollment in the Doctorate in Physical Therapy program.						
7289 Intermediate Clinical Internship II	G	8	8270 Geriatric Management	G	2	
Full time clinical experience rotation completed in an affiliated outpatient facility with the focus on patients with acute or neurologic impairments.						
7420 Musculoskeletal Skills Laboratory I	G	3	8272 Cardiopulmonary Rehabilitation	G	2	
Clinical application and skill acquisition related to management of musculoskeletal conditions by physical therapists.						
Prereq: Enrollment in the Doctorate in Physical Therapy program.						
8013 Contemporary Practice	G	1	8274 Integumentary Systems and Rehabilitation	G	2	
Critical appraisal of current medical, ethical, political and legal topics impacting physical therapy practice.						
Prereq: Enrollment in the Doctorate in Physical Therapy program.						
8030 Topics in Pediatric Physical Therapy	G	1	8276 Adaptive Equipment and Community Reintegration	G	2	
Critical topics related to health care and education systems delivery in pediatric practice and the role of family and culture in the therapeutic program of the child.						
Prereq: Enrollment in the Doctorate in Physical Therapy program.						
8050 Topics in Rehabilitation and Long Term Care	G	1	Analysis of the use of adaptive equipment such as orthotics and wheelchairs to augment rehabilitation. Evidence and rationale for the performance of functional capacity evaluations for community reintegration.			
Healthcare systems and critical topics in rehabilitation and geriatric care.						
Prereq: Enrollment in the Doctorate in Physical Therapy program.						
8060 Health Care in America and its Impact on Physical Therapy I	G	1	8289 Terminal Clinical Internship II	G	8	
Analysis of the healthcare system in America and how working within this system impacts the practice of Physical Therapy.						
8061 Director's Seminar: PT as a Profession	G	1	Develop entry level competence in the clinic with patients of various diagnoses for examination, interventions, diagnosis, development of comprehensive plan of care, goal setting, documentation, consultation, delegation, and communication.			
Issues pertaining to leadership and professional responsibility in physical therapy as part of the healthcare system are discussed in a seminar format. Students will meet weekly for discussion with faculty and expert panels. Enrollment is limited to 3rd year students in the doctorate of physical therapy program.						
8065S Service Learning in Physical Therapy	G	½ - 2	8410 Musculoskeletal Skills Laboratory II	G	3	
This course was designed to provide students with service learning opportunities in physical therapy.						
Repeatable to a maximum of 16 cr hrs or 8 completions. This course is graded S/U.						
Prereq: Enrollment in the Doctorate in Physical Therapy program.						
8430 Pediatric Laboratory	G	1	8450 Adult Neurologic Laboratory	G	3	
Applications and methods used in evaluation, diagnosis and intervention including neurological, musculoskeletal, cardiopulmonary and integumentary systems in children.						
Prereq: Enrollment in the Doctorate in Physical Therapy program.						
8474 Integumentary and Community Reintegration Laboratory	G	3	Clinical decision making and techniques for examination, evaluation, and interventions for those with disorders related to the integumentary system, adaptive equipment and community reintegration.			
Prereq: Enrollment in the Doctorate in Physical Therapy program.						

8610 Advanced Orthopedic Physical Therapy

G 1

Critical analysis of the current literature and the application of advanced skills related to the orthopedic patient with an emphasis manual therapy techniques and evidence-based interventions.

Prereq: Enrollment in the Doctorate in Physical Therapy program.

8612 Advanced Sports Physical Therapy

G 1

Introduction to Sports Physical Therapy concepts with emphasis on prevention, acute injury management, differential diagnosis, sports-specific rehabilitation and wellness.

Prereq: Enrollment in the Doctorate in Physical Therapy program.

8620 Entrepreneurial Leadership in PT

G 1

Develop leadership skills and integrate leadership theory in running a physical therapy private practice. This seminar progresses the learner from basic administrative and supervisory principles and theory to the application of higher level skills.

Prereq: Must be enrolled in Physical Therapy, or permission of instructor. This course is graded S/U.

8625 Private Practice Management In PT

G 1

Develop leadership skills and integrate leadership theory in running a physical therapy private practice. This seminar progresses the learner from basic administrative and supervisory principles and theory to the application of higher level skills.

Prereq: Enrollment in Physical Therapy, or permission of instructor. This course is graded S/U.

8630 Clinical Science in Pediatrics

G 2

Typical and atypical development including the effects of disease and damage to the nervous, musculoskeletal, cardiopulmonary and integumentary systems in pediatrics.

Prereq: Enrollment in the Doctorate in Physical Therapy program.

8640 Complex Scenarios in Physical Therapy

G 1

Critical issues in managing complex scenarios in physical therapy.

Repeatable to a maximum of 2 cr hrs.

8650 Advanced Neurologic Rehabilitation

G 1

Critical analysis of the current literature and the application of advanced skills related to the neurologic patient with an emphasis on evidence-based assessment.

Prereq: Enrollment in the Doctorate in Physical Therapy program.

8670 Imaging in Physical Therapy Practice

G 2

Develop an understanding of the basic principles and interpretation of musculoskeletal and neuromuscular imaging. The course will focus on the application of radiographic, CT and MRI images into physical therapy practice.

Prereq: Enrollment in the Doctorate in Physical Therapy program.

8674 Advanced Therapeutic Interventions and Progressions

G 1

Case based analysis, skill acquisition, and patient-centered clinical interventions.

Prereq: Enrollment in the Doctorate in Physical Therapy program.

8676 Differential Diagnosis for Physical Therapists

G 4

Clinical decision making related to systemic disease that can present as neuromuscular or musculoskeletal conditions. Related literature will be utilized to explore systemic origins of disorders related to PT practice.

Prereq: Enrollment in the Doctorate in Physical Therapy program.

8677 Differential Diagnosis for Physical Therapists II

G 2

Clinical decision making related to systemic disease that can present as neuromuscular or musculoskeletal conditions. Case studies and related literature will be used to explore systemic origins of musculoskeletal or neuromuscular signs and symptoms.

Prereq: Enrollment in the Doctorate in Physical Therapy program.

8680 Experimental Methods in Biomechanics

G 1½

The purpose of this Experimental Methods in Biomechanics course is to introduce you to the wide variety of equipment that is used to make biomechanical measurements in clinical and research settings. We will discuss the technology/theory that was used to develop each measurement technique, how it is typically used, and its advantages and limitations.

8989 Capstone Practicum Experience

G 4

Full-time individualized experience focusing on an aspect of physical therapy such as specialty clinical practice, administration or management, teaching, research, service or advocacy. It must include the development of a related project.

Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

8998 Research Practicum

G 1 - 9

Experience within a faculty members research laboratory. Includes exposure to and practice in all aspects of the research process.

Repeatable to a maximum of 21 cr hrs or 12 completions. This course is graded S/U.

8999 Thesis

G 1 - 12

Research Thesis.

Repeatable to a maximum of 45 cr hrs or 8 completions. This course is graded S/U.

1103 World of Energy: Forces, Electricity, Magnetism, Machines

U 3

An examination of the physical concepts related to energy, including force, electricity, magnetism, and motors. Uses the hands-on discovery mode of instruction. Intended for non-science majors.

Prereq: Not open to students with credit for 103. GE nat sci phys course. NS Admis Cond course.

1104 World of Energy: Light, Thermodynamics, Energy Sources

U 3

An examination of the various forms of energy and energy production with its personal and global impact. Uses the hands-on discovery mode of instruction. Intended for non-science majors.

Prereq: Not open to students with credit for 104. GE nat sci phys course. NS Admis Cond course.

1106.01 Physics by Inquiry: Properties of Matter, Heat and Temperature, and Forces and Motion

U 5

Investigation of the properties of matter, motion and thermodynamics using the inquiry technique. Intended for non-science majors.

Prereq: Not open to students with credit for 106 and 107. GE nat sci phys course. NS Admis Cond course.

1107.01 Physics by Inquiry: Circuits, Light and Optics, and Astronomy

U 5

Investigation of the properties of electricity and circuits, light, optics with applications to real-world phenomena such as astronomy using the inquiry technique. Intended for non-science majors.

Prereq: Not open to students with credit for 107 and 108. GE nat sci phys course. NS Admis Cond course.

1110 The Physics of Sports

U 3

Examines the physics of motion set in the context of sports.

Prereq: Math 1050 (75) or equiv. Not open to students with credit for 110. GE nat sci phys course. NS Admis Cond course.

1200 Mechanics, Kinematics, Fluids, Waves

U 5

Algebra-based introduction to classical physics: Newtons laws, fluids, waves.

Prereq: A grade of C- or above in Math 1148 (148), or Math Placement Level M. Not open to students with credit for 111. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1201 E&M, Optics, Modern Physics

U 5

Algebra-based introduction to electricity and magnetism, simple optics, overview of modern physics including special relativity and quantum mechanics.

Prereq: 1200 (111). Not open to students with credit for 112. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1210 Bridging from 111 to equivalent of 1200: Fluids, Waves

U 2

Algebra-based introduction to classical physics: fluids and waves; for students having credit for Physics 111 needing equivalent of credit for Physics 1200.

Prereq: 111. Not open to students with credit for 1200 (113). This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1211 Bridging from 112 to equivalent of 1201: Optics, Modern Physics

U 2

Algebra-based introduction to classical physics: additional optics and modern physics; for students having credit for Physics 112 needing equivalent of credit for Physics 1201.

Prereq: 112. Prereq or concur: 1210. Not open to students with credit for 1201 (113). This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1240 Bridging from 131 to equivalent of 1250: Thermo, Waves, Fluids

U 2

Calculus-based introduction to classical physics: fluids, thermodynamics, waves; for students having credit for Physics 131 needing equivalent of credit for Physics 1250.

Prereq: 131. Not open to students with credit for 1250 (133). This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1241 Bridging from 132 to equivalent of 1251: Optics, Modern Physics

U 2

Calculus-based introduction to simple optics, modern physics including special relativity and quantum mechanics; for students having credit for Physics 132 needing equivalent of credit for Physics 1251.

Prereq: 132. Prereq or concur: 1240. Not open to students with credit for 1251 (133). This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1250 Mechanics, Thermal Physics, Waves

U 5

Calculus-based introduction to classical physics: Newton's laws, fluids, thermodynamics, waves; for students in physical sciences, mathematics, and engineering.

Prereq: 1 entrance unit of Physics or Chem. Concur: Math 1151 (152), 1161 (161), 1181H (161H), or 4181H (190H) or above. Not open to students with credit for 131. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

360 Physics

1250H Honors Physics: Mechanics and Conservation Laws; Special Relativity	U	5	3470 Optics	U	3			
In depth study of classical mechanics including Newton's laws, conservation laws, and introduction to special relativity.								
Prereq: Honors standing, or permission of instructor. Concur: Math 1151 (152), 1161 (161), 1181H (161H), or 4181H (191H) or above. Not open to students with credit for 131. GE nat sci phys course. NS Admis Cond course.								
1251 E&M, Optics, Modern Physics	U	5	Introduces students to the fundamentals of modern optics. Topics will include Maxwell's equations, reflection & refraction, interference & diffraction, lasers and optical imaging. Prereq: 1251 (132), 1251H (132H), or 1261. Not open to students with credit for 570.					
Calculus-based introduction to electricity and magnetism, simple optics, modern physics including special relativity and quantum mechanics; for students in physical sciences, mathematics, engineering.								
Prereq: 1250 (131), 1250H (131H), or 1260, and Math 1151 (152) or above; or permission of instructor. Concur: Math 1152 (153), 1161, 1172, 1181H, or 4181H. Not open to students with credit for 132. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.								
1251H Honors Physics: Electricity and Magnetism; Thermal Physics, Waves, and Quantum Physics	U	5	3700 Experimental Physics Instrumentation and Data Analysis Lab	U	3			
In depth introduction to: electricity and magnetism including Maxwell's equations, thermodynamics, quantum mechanics.								
Prereq: Honors standing, and 1250H and Math 1151 or above; or permission of instructor. Concur: Math 1152, 1161, 1172, 1181H, or 4181H or above. Not open to students with credit for 132. GE nat sci phys course. NS Admis Cond course.								
1260 FEH Physics: Mechanics, Thermal Physics, Waves	U	5	Construction, simulation and statistical analysis of data from advanced experiments in nuclear processes. Introduction to advanced instrumentation and computer controlled data acquisition. Computer programming is required.					
Calculus-based introduction to classical physics: Newton's laws, fluids, thermodynamics, waves. Emphasizes group work; for students in Fundamentals of Engineering Honors.								
Prereq: Honors standing in Engineering, and 1 entrance unit of Physics or Chem. Concur: Math 1151 (152), 1161 (161), 1181H (161H), or 4181H (191H), or above. Not open to students with credit for 131. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.								
1261 FEH Physics: E&M, Optics, Modern Physics	U	5	4193 Individual Studies	U	1 - 5			
Calculus-based introduction to electricity and magnetism, simple optics, modern physics including special relativity and quantum mechanics. Emphasizes group work; for students in Fundamentals of Engineering Honors.								
Prereq: 1260 (131) and Math 1151 (152) or above, or permission of instructor. Concur: Math 1152 (153), 1161, 1172, 1181H, or 4181H. Not open to students with credit for 132. GE nat sci phys course. NS Admis Cond course.								
2095 Introductory Physics Seminar	U	1	4194 Group Studies	U	1 - 5			
Introduction to departmental research programs and to selected topics of interest in contemporary physics.								
Prereq: 1251 (132), 1251H (132H), or 1261. Not open to students with credit for 295. This course is graded S/U.								
2193 Individual Studies	U	1 - 5	4700 Introductory Electronics for Physicists	U	3			
Designed to give a properly qualified student opportunity for independent reading, study, or laboratory work in a specialized field of interest.								
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.								
2194 Group Studies	U	1 - 5	4998 Undergraduate Research in Physics	U	1 - 5			
Group Studies.								
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions.								
2300 Intermediate Mechanics I	U	4	4998H Honors Undergraduate Research in Physics	U	1 - 5			
Vectors and kinematics; foundations of Newtonian mechanics; momentum, work, and energy; conservative and nonconservative forces; potentials; angular momentum; rotation about a fixed axis; rigid body motion; noninertial systems and fictitious forces.								
Prereq: A grade of C+ or above in 1251 (132), 1251H (132H), or 1261. Concur: Math 2153, 2173, or above. Not open to students with credit for 261 or 262.								
2301 Intermediate Mechanics II	U	4	4999 Thesis Undergraduate Research in Physics	U	1 - 5			
The special theory of relativity; relativistic kinematics; relativistic momentum and energy. Introduction to quantum systems; photons; the Bohr atom; matter waves.								
Prereq: Math 2153 or 2173 (254) or above, and a grade of C+ or above in 2300 (261). Not open to students with credit for 262 or 263.								
2367 Uses of Science in Solving Problems of Society	U	3	5100 Physics for In-Service Teachers	U G	1 - 10			
Energy, environment, and the arms race are examined using the methods of science; focuses on interaction of science and technology; and social and ethical implications of choices.								
Prereq: Math Placement S or higher; 1 5-hr 100-level or 1000-level course in either Astron, BioSci, Chem, GeolSci, or Physics; first writing course or equiv. Not open to students with credit for 367. GE writing and comm course: level 2 and nat sci phys course. NS Admis Cond course.								
2998 Undergraduate Research in Physics	U	1 - 5	5300 Theoretical Mechanics	U G	4			
Undergraduate research or creative activities in various topics.								
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions.								
3201H Honors Holography	U	3	Development of Lagrangian mechanics, inertia and stress tensors, rigid body rotations and introduction to the mechanics of continuous media.					
The basic technique of 3D image making; construction of a diode laser and use of this device to make holograms.								
Prereq: Honors standing, or permission of dept or instructor. Not open to students with credit for Art 3201H. Repeatable to a maximum of 12 cr hrs. GE VPA course. Cross-listed in Art.								
3470 Optics	U	3	5400 Intermediate Electricity and Magnetism	U G	4			
Introduces students to the fundamentals of modern optics. Topics will include Maxwell's equations, reflection & refraction, interference & diffraction, lasers and optical imaging. Prereq: 1251 (132), 1251H (132H), or 1261. Not open to students with credit for 570.								
Prereq: 1251 (132), 1251H (132H), or 1261, and CSE 1222 (202 or Engineer 167), Engr 1281.01H (Engineer 191H), 1281.02H, or 1281.03H. Not open to students with credit for 416. GE data anly course.								
3700 Experimental Physics Instrumentation and Data Analysis Lab	U	3	5401H Honors Advanced Electricity and Magnetism 2	U G	4			
Construction, simulation and statistical analysis of data from advanced experiments in nuclear processes. Introduction to advanced instrumentation and computer controlled data acquisition. Computer programming is required.								
Prereq: 1251 (132), 1251H (132H), or 1261, and CSE 1222 (202 or Engineer 167), Engr 1281.01H (Engineer 191H), 1281.02H, or 1281.03H. Not open to students with credit for 416. GE data anly course.								
4193 Individual Studies	U	1 - 5	5498 Undergraduate Research in Physics	U	1 - 5			
Designed to give a properly qualified student opportunity for independent reading, study, or laboratory work in a specialized field of interest.								
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions. This course is graded S/U.								
4194 Group Studies	U	1 - 5	5499 Honors Undergraduate Research in Physics	U	1 - 5			
Group Studies.								
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.								
4700 Introductory Electronics for Physicists	U	3	5499H Honors Undergraduate Research in Physics	U	1 - 5			
Intermediate level introduction to electronic circuits, devices, and instrumentation with emphasis on laboratory experience.								
Prereq: 1251 (132), 1251H (132H), or 1261. Not open to students with credit for 517.								
4998 Undergraduate Research in Physics	U	1 - 5	5500 Quantum Mechanics	U G	4			
Undergraduate research or creative activities in various topics.								
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.								
4998H Honors Undergraduate Research in Physics	U	1 - 5	Undergraduate research or creative activities in various topics; no thesis.					
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.								
4999 Thesis Undergraduate Research in Physics	U	1 - 5	Undergraduate research or creative activities in various topics; culminating in a thesis.					
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.								
4999H Honors Thesis Undergraduate Research in Physics	U	1 - 5	Undergraduate research or creative activities in various topics; culminating in a thesis.					
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.								
5100 Physics for In-Service Teachers	U G	1 - 10	5300 Theoretical Mechanics	U G	4			
Designed to deepen teachers' understanding of basic physical concepts and methods of treatment of selected topics, includes lectures, discussions, demonstrations, and individualized lab work. Intended for secondary school science teachers.								
Prereq: 10 cr hrs in Physics, and teaching experience, and permission of instructor.								
Repeatable to a maximum of 20 cr hrs or 20 completions.								
5300 Theoretical Mechanics	U G	4	5400 Intermediate Electricity and Magnetism	U G	4			
Development of Lagrangian mechanics, inertia and stress tensors, rigid body rotations and introduction to the mechanics of continuous media.								
Prereq: A grade of C+ or above in 2301 (262), and a grade of C+ or above in Math 2174 (415) or 2568 (568). Not open to students with credit for 664.								
5400 Intermediate Electricity and Magnetism	U G	4	5401H Honors Advanced Electricity and Magnetism 2	U G	4			
Introduction to the description of electrostatic fields; dielectrics; boundary-value problems; magnetic fields of steady currents; induction; Maxwell's equations; plane waves.								
Prereq: A grade of C+ or above in 2301 (263), and Math 2174, 2415 (415), 2255 (255), or 5520H (521H); or permission of instructor. Not open to students with credit for 5400H, 555, or 656.								
5400H Honors Intermediate Electricity and Magnetism I	U G	4	5498 Undergraduate Research in Physics	U	1 - 5			
Advanced treatment of electrostatic fields; dielectrics; boundary-value problems; magnetic fields of steady currents; induction; Maxwell's equations; plane waves.								
Prereq: Honors standing, Math 2174, 2415 (415), 2255 (255), or 5520H (521H), and a grade of C+ or above in Physics 2301 (263); or permission of instructor. Not open to students with credit for 5400, 555, or 656.								
5401H Honors Advanced Electricity and Magnetism 2	U G	4	5499 Honors Undergraduate Research in Physics	U	1 - 5			
Plane waves, plane waves in matter; physical optics; coherence, interference, diffraction, and dispersion.								
Prereq: Honors standing or permission of instructor; (B+ or better in 5400) or (C+ or better in 5400H) or (B+ or better in 555). Not open to students with credit for 656 or 657.								
5500 Quantum Mechanics	U G	4	5500 Quantum Mechanics	U G	4			
Introduction to quantum mechanics, including its historical background, the Schrodinger equation, solutions of one-dimensional scattering and bound state problems.								
Prereq: A grade of C+ or above in 2301 (263), and Math 2174, 2415 (415), 2255 (255) or 5520H (521H); or permission of instructor. Not open to students with credit for 5500H, 631, or 632.								

5500H Honors Quantum Mechanics I	U G 4	6809 Topics in Biophysics	G 4
Advanced treatment of quantum mechanics, including its historical background, the Schrodinger equation, solutions of one-dimensional scattering and bound state problems. Uses Dirac notation.		Experimental and theoretical aspects of areas of current interest in Biophysics. Prereq: 5501 or grad standing or permission of instructor.	
Prereq: Honors standing, a grade of C+ or above in 2301 (263), and a grade of C+ or above in Math 2174, 2415 (415), or 2255 (255); or permission of instructor. Not open to students with credit for 5500, 631, or 632.			
5501 Quantum Mechanics II	U G 4	6810 Topics in Computational Physics	G 4
Harmonic oscillator, time-independent and time-dependent perturbation theory, addition of angular momenta, fine and hyperfine structure of hydrogen, identical particles, periodic systems, modern physics applications of quantum mechanics.		Experimental and theoretical aspects of areas of current interest in Computational Physics. Prereq: 5501 or grad standing or permission of instructor.	
Prereq: 5500, and Math 2174, 2415, 2255, or 5520H; or permission of instructor. Not open to students with credit for 5501H or 633.			
5501H Honors Quantum Mechanics II	U G 4	6820 Special Topics	G 4
The Schrodinger equation in three dimensions, angular momentum, the hydrogen atom; time-independent perturbation theory, time-dependent perturbation theory, scattering theory and the Born approximation, multi-electron atoms.		Experimental and theoretical aspects of areas of current interest in physics. Special Topics. Prereq: Prereq: 5501 or grad standing. Repeatable to a maximum of 24 cr hrs.	
Prereq: Honors status; and B+ or better in 5500 (632), or C+ or better in 5500H (632H); or permission of instructor. Not open to students with credit for 633			
5600 Statistical Mechanics	U G 4	7193 Individual Studies	G 1 - 6
Thermodynamics and statistical mechanics; applications to noninteracting classical and quantum systems. Interacting systems, special states of matter, critical phenomena and phase transitions.		Designed to give a properly qualified student opportunity for independent reading, study, or laboratory work in a specialized field of interest.	
Prereq: 5500, Math 2174, 2415 (415), 2255 (255) or 520H (521H), and a grade of C+ or above in 2301 (263); or permission of instructor. Not open to students with credit for 621 or 622.		Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 6 completions. This course is graded S/U.	
5700 Advanced Physics Laboratory	U G 3	7194 Group Studies	G 1 - 5
Lab course for physics majors. Three advanced experiments from a variety of physics disciplines are carried out. Emphasis is on experimental techniques, analysis of collected data, and formal presentation of experimental results.		Group Studies.	
Prereq: 2301 (263); and 3700 (416); and 5400 (555) or 5400H; and 5500 (631) or 5500H. Not open to students with credit for 616.		Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 6 completions.	
5710 Advanced Engineering Physics Laboratory	U G 3	7401 Electromagnetic Field Theory	G 3
Lab course for eng physics majors. Experiments in optics, materials, and nuclear physics are carried out in a team approach, emphasizing DAQ methods and experimental design, analysis of collected data, and formal presentation of experimental results.		Electric and magnetic fields in material media, Maxwell's equations, electromagnetic waves, radiation by simple systems and by moving charges. Special theory of relativity.	
Prereq: 2301 (263); and 3700 (416); and 5400 (555) or 5400H; and 5500 (631) or 5500H. Not open to students with credit for 616.		Prereq: 5401 and 7701, or permission of instructor.	
5800 Engineering Physics Design I	U G 3	7501 Quantum Mechanics 1	G 3
Presents fundamentals of engineering-physics design and leads to skills development relevant to a specific design proposal. Technical communication skills, both written and oral, are employed throughout.		Postulates and Schroedinger eq., linear vector spaces, path-integral formulation; symmetry, orbital angular momentum, central potentials, spin angular momentum.	
Prereq: 2301 (263) and a Second Writing course, and Sr standing in Engineering Physics.		Prereq: 5501 or equivalent, or permission of instructor.	
5801 Engineering Physics Design II	U G 3	7502 Quantum Mechanics 2	G 3
Continues training in engineering-physics design. Preliminary designs are refined and prototypes are fabricated and tested. Technical communication skills, both written and oral, are employed throughout.		Variational method; perturbation theory, semiclassical treatment of electromagnetic radiation, quantized electromagnetic radiation, scattering theory; density matrix; Dirac equation.	
Prereq: 5800, and Sr standing in Engineering Physics.		Prereq: 7501.	
6201 Grad Holography I	G 3	7601 Classical and Statistical Physics I	G 3
Introduction to the theory and basic technique of 3D image making. Students will construct a diode laser and use it to make holograms.. For grad students in the grad specialization "Analysis of Material Culture".		Lagrangian dynamics, variational principles, Hamilton's equations, canonical transformations, symmetries and conservation laws. Introduction to statistical physics; fundamental postulates.	
Prereq: Grad standing.		Prereq: 5300 or grad standing in Physics or permission of instructor.	
6780 Special Topics Seminar	G 1	7602 Classical and Statistical Physics II	G 3
A survey of current research problems in physics.		Entropy, therm. potentials and changes of phase; microscopic expression for entropy and basis of classical ensemble theory. Canonical and grand ensembles; Quantum statistical mechanics.	
Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.		Prereq: 5600 or equiv. or 7601.	
6802 Topics in Elementary Particle Physics	G 4	7603 Advanced Statistical Physics	G 3
Experimental and theoretical aspects of areas of current interest in physics. Elementary Particle Physics.		Interacting systems; Ising and Heisenberg models of magnetism, theory of dense gases and liquids, phase transitions and critical phenomena; non-equilibrium statistical physics, Boltzmann equation.	
Prereq: 5501 or grad standing or permission of instructor.		Prereq: 7502 and 7602, or permission of instructor.	
6804 Topics in Atomic and Molecular Physics	G 4	7701 Analytic and Numeric Methods of Physics	G 3
Experimental and theoretical aspects of areas of current interest in physics. Atomic and Molecular Physics.		Analytical and numeric boundary value problems, complex analysis, Fourier series, Legendre polynomials, spherical harmonics, and Bessel functions.	
Prereq: 5501 or grad standing or permission of instructor.		Prereq: grad standing in Physics or permission of instructor.	
6805 Topics in Nuclear Physics	G 4	7891 Departmental Seminar or Workshop	G 1
Experimental and theoretical aspects of areas of current interest in physics. Nuclear Physics.		Departmental Seminar or Workshop	
Prereq: 5501 or grad standing or permission of instructor.		Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.	
6806 Topics in Condensed Matter Physics	G 4	7998 Graduate Research	G 1 - 10
Experimental and theoretical aspects of areas of current interest in physics. Condensed Matter Physics.		Laboratory and/or theoretical research on an individual basis on topics of current interest.	
Prereq: 5501 or grad standing or permission of instructor.		Prereq: 5700, or equiv, and permission of instructor. Repeatable to a maximum of 36 cr hrs or 6 completions. This course is graded S/U.	
8802.01 Topics in Elementary Particle Physics 1	G 3	8802.01 Topics in Elementary Particle Physics 1	G 3
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Elementary Particle Physics.		A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Elementary Particle Physics.	
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.		Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.	
8802.02 Topics in Elementary Particle Physics 2	G 3	8802.02 Topics in Elementary Particle Physics 2	G 3
A (continued) systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Elementary Particle Physics.		A (continued) systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Elementary Particle Physics.	
Prereq: 8802.01 or permission of instructor. Repeatable to a maximum of 6 cr hrs.		Prereq: 8802.01 or permission of instructor. Repeatable to a maximum of 6 cr hrs.	
8803.01 Topics in Astroparticle Physics 1	G 3	8803.01 Topics in Astroparticle Physics 1	G 3
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Astroparticle Physics.		A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Astroparticle Physics.	
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.		Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.	

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8804.01 Topics in Atomic and Molecular Physics 1	G	3
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Atomic and Molecular Physics.		
Prereq: 7501, or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
8805.01 Topics in Nuclear Physics 1		
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Nuclear Physics.		
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
8806.01 Topics in Condensed Matter Physics 1	G	3
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Condensed Matter Physics.		
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
8806.02 Topics in Condensed Matter Physics 2	G	3
A (continued) systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Condensed Matter Physics.		
Prereq: 8806.01 or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
8808.01 Topics in the Theory of Quantized Fields I	G	3
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Theory of Quantized Fields.		
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
8808.02 Topics in the Theory of Quantized Fields II	G	3
A (continued) systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Theory of Quantized Fields.		
Prereq: 8808.01 or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
8809.01 Topics in Biophysics	G	3
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Biophysics.		
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
8820 Special Topics	G	3
A systematic advanced treatment of areas of current interest in physics; topics will be announced each quarter. Special Topics.		
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
8999 Research in Physics	G	1 - 12
Research for thesis or dissertation purposes only.		
Au, Sp, Sum Semesters. Prereq: Permission of Instructor. Repeatable. This course is graded S/U.		

Physiology and Cell Biology

3101 Human Physiology I	U	3
First of a two-semester sequence. In this course the following areas of physiology are covered: cell membrane, neurophysiology, muscle and gastrointestinal physiology.		
Au Sem. Prereq: Two semesters of Chem.		
3102 Human Physiology II		
Second of a two-semester sequence. In this course the following areas of physiology are covered: cardiovascular, respiration, renal, endocrine physiology and reproduction.		
Sp Sem. Prereq: Physio 3101 (PhysioCB 311).		
3200 Human Physiology	U	5
Teaches the physiology of human organ systems, including the following: nervous system, muscle, gastrointestinal, cardiovascular, respiratory, renal, endocrine, and reproductive systems. This course is designed for students who are planning careers in the health sciences. This is a one-semester course.		
Prereq: 6 sem cr hrs in the biological sciences.		
4998 Research - Independent Study	U	1 - 4
Students will conduct hands-on laboratory research in the areas of cell biology and physiology under the direction of a faculty member in the department of Physiology and Cell Biology. This will involve learning specific laboratory techniques related to the area of the faculty member's biomedical research program, which may include biochemical, molecular, physiological, and genetic methods.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.		
6101 Advanced Human Physiology I	G	3
First in two semester graduate course sequence covering Cell, Neuro, Muscle, Cardiovascular, GI, Respiratory, Renal & Endocrine Physiology.		
Au Sem. Prereq: Enrollment in one of the following graduate programs: IBGP, BiomedE, Sport & Exercise Science, Pharm, Anatomy, Pathology Associate, or permission of course director.		
Not open to students with credit for PhysioCB 601.		
6102 Advanced Human Physiology II	G	3
Second in two semester graduate course sequence covering Cell, Neuro, Muscle, Cardiovascular, GI, Respiratory, Renal & Endocrine Physiology.		
Au Sem. Prereq: A grade of C- or above in Physio 6101 (PhysioCB 601); and enrollment in IBGP, BiomedE, Sport & Exercise Science, Pharm, Anatomy, or Pathol; or permission of course director. Not open to students with credit for PhysioCB 602.		

7931 Individual Studies in Physiology and Cell Biology	G	1 - 16
Reading, conferences, and laboratory work by individual arrangement with qualified students who desire more intensive and specialized study than is available in other courses. Repeatable to a maximum of 18 completions. This course is progress graded (S/U).		
8101 Advanced Cardiac Physiology		
Advanced presentation of cardiovascular physiology. 1hr journal club and 2hr class. Au Sem. Prereq: Physio 6101 or 6102, or equiv, and permission of instructor.		
8501 Cardiovascular Journal Club	G	1
Journal Club - presentation and discussion of pertinent research articles. Au, Sp Sems. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
8999 Research (Independent Study)	G	1 - 16
Research for thesis or dissertation purposes only. Repeatable to a maximum of 18 completions. This course is progress graded (S/U).		

Plant Pathology

1100 Exploring Plant Pathology	U	1/2
Basic understanding of the global trends within plant pathology, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.		
2000 Molds, Mushrooms, and Mankind		
Fungi have influenced human health, migration, and nutrition for thousands of years. This course studies fungal biology and the impact of fungi in society both historically and currently. Sp Sem. GE nat sci bio course.		
2001 Sick Plants and a Hungry World	U	2
Review of the interactions of plants with plant pathogens and the social, economic, and historic consequences for civilization. Entirely online course. Au, Sp Sems. Prereq: Not open to students with credit for 201.		
3001 General Plant Pathology Lecture	U	3
An introduction to plant diseases caused by fungi, bacteria, viruses, nematodes and parasitic higher plants. Video-linked to Wooster. Au Sem. Prereq: Biology 1101 (101), 1113 (113), 1115H (115H), or Entmlyg 1101 (Entomol 101). Not open to students with credit for 401 or 6001.		
3002 General Plant Pathology Lab	U	2
The lab portion of general plant pathology. Lab work will include experiments involving fungi, bacteria, viruses, nematodes and parasitic higher plants. Video-linked to Wooster. Au Sem. Prereq: Biology 1101 (101), 1113 (113), 1115H (115H), or Entmlyg 1101 (Entomol 101). Concur: 3001 (401). Not open to students with credit for 6001 or 401.		
3195 Plant Health Science Forum	U	1
A seminar series for those interested in plant health science. Students will meet with professional plant health managers and take field trips. Professional development issues also covered.		
* May Term. Repeatable to a maximum of 7 cr hrs. This course is graded S/U.		
3797 Study at a Foreign Institution	U	1 - 6
Study abroad opportunities for students in plant pathology, plant health management, etc. and receive Ohio State credit for that work.		
Prereq: Pre-departure course, and permission of instructor.		
4191 Internship Experiences in Plant Health Management	U	1 - 6
Ten or more weeks of an individualized experiential learning opportunity designed to link theoretical classroom knowledge with practical field application.		
Au, Sp, Su Sems. Prereq: 3001 (401) and 3002, or 6001. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		
4193 Undergraduate Individual Studies	U	1 - 3
Problems may be selected in the various areas of plant pathology.		
Au, Sp, Su Sems. Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.		
4550 Bioterrorism: An Overview	U	3
A broad awareness course on the bioterrorism threat to our food supply, crops, animals and public health, and bioterrorist organizations.		
Sp Sem. Prereq: Jr or Sr standing. Not open to students with credit for 455 or IntStd 455 (455). Cross-listed in IntStd.		
4597 Contemporary Issues: Pesticides, Genetic Engineering, and the Environment	U	3
Contemporary, cultural, and social issues related to pesticide use, genetic engineering and sustainable plant management.		
Au, Sp Sems. Prereq: Jr or Sr standing. Not open to students with credit for 597. GE cross-disciplinary seminar course.		
4998 Undergraduate Research	U	1 - 6
Conducting research.		
Au, Sp, Su Sems. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.		

4999 Research with Distinction	U 1 - 5
Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.	
Au, Sp, Su Sems. Prereq: CPHR 3.0 or above, and GPA 3.0 or above in major, and permission of project supervisor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.	
4999H Honors Research with Distinction	U 1 - 3
Conducting and reporting research with Distinction.	
Au, Sp, Su Sems. Prereq: Honors standing, and FAES 4590.01H (590H), and CPHR 3.4 or above, and GPA 3.4 or above in major, and permission of honors project supervisor.	
Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.	
5010 Phytopathobiology	U G 2
Taxonomy, molecular biology, physiology, and ecology of plant-associated bacteria that interact with plants, especially those that cause disease and affect plant health. Video-linked to Wooster.	
Prereq: 3001 and 3002, or 6001 (401), or permission of instructor. Not open to students with credit for 600.01.	
5020 Introductory Plant Virology	U G 2
Plant virus structures, genome organizations and replication strategies. Symptoms and diagnosis of virus diseases of plants. Video-linked to Wooster.	
Prereq: 3001 and 3002, or 6001 (401), and at least one course taken in Biochem, MolBic, MolGen, or Microbio; or permission of instructor. Not open to students with credit for 600.02.	
5030 Plant Nematology	U G 2
Introduction to plant-parasitic nematodes, with emphasis on identification, epidemiology and host interactions. Video-linked to Wooster.	
Prereq: 3001 and 3002, or 6001 (401), or permission of instructor. Not open to students with credit for 636.	
5040 Science of Fungi: Mycology Lecture	U G 3
Fungi are some of the most important organisms on the planet. This course covers the diversity, biology, and genetics of fungi. Video-linked to Wooster.	
Au Sem. Prereq: A course in the Biological Sciences, or permission of instructor. Not open to students with credit for 660.	
5041 Science of Fungi: Mycology Lab	U G 1
Fungi are some of the most important organisms on the planet. This lab covers the diversity, biology and genetics of fungi. Video-linked to Wooster.	
Au Sem. Prereq: A course in the Biological Sciences, or permission of instructor. Concur: 5040. Not open to students with credit for 660.	
5050 Plant Pathogenic Fungi	U G 3
This course is designed to provide a more in-depth look at the filamentous plant pathogens, fungi, to better prepare graduate students planning on constructing careers in plant pathology. This course will cover the different groups of fungal pathogens with examples, their biology, and their impact in society both historically and currently.	
Prereq: 3001 or 6001, or permission of instructor.	
5110 Ecology and Management of Pathogens and Insects Affecting Trees in Forest and Urban Environments	U G 3
Overview of major pathogens and insects affecting health of forest and shade trees with emphasis on diagnosis, ecology, and management. Video-linked to Wooster. Offered odd years.	
Sp Sem. Prereq: Not open to students with credit for 610 or Entmlgy 5110 (Entomol 461). Cross-listed in Entmlgy.	
5120 Diseases of Ornamental Plants	U G 2
Biology and integrated control of important diseases of ornamental plants.	
Sp Sem. Prereq: 3001 (401) and 3002, or 6001, or permission of instructor. Not open to students with credit for 501.	
5130 Turf Diseases and Integrated Turf Health Management	U G 4
A detailed study of the diseases of turfgrass, factors influencing disease severity, and specific measures for disease control such as genetic, cultural, biological, and chemical.	
Prereq: 3001 (401) or 6001, HCS 3470, and Jr or Sr standing; or permission of instructor.	
Another option includes HCS 3470, and Jr or Sr standing; or permission of instructor. Concur: PLNTPTH 3001. Not open to students with credit for 612 and 613.	
5140 Diseases of Field Crops	U G 2
Key diseases that impact crop plants with emphasis on identification, management and field evaluations of management strategies. Video-linked to Wooster.	
Sp Sem. Prereq: Two courses in the Biological Sciences, or permission of instructor. Not open to students with credit for 614.	
5150 Fruit and Vegetable Diseases	U G 2
Study the major diseases of fruit and vegetable crops with emphasis on disease diagnosis and management. Video-linked to Wooster.	
Sp Sem. Prereq: 3001 (401) and 3002, or 6001, or permission of instructor. Not open to students with credit for 615.	

5550 Quantitative Methods for Agricultural Scientists	U G 3
A practical introduction to the variety of quantitative methods used for data analysis by agricultural, environmental, and life sciences researchers. Students learn how to make statistically valid comparisons, associations, and classifications, and make appropriate inferences about experimental outcomes based on them. Video linked to Wooster.	
Sp Sem. Prereq: Not open to students with credit for 655.	
5603 Plant Disease Management	U G 3
Theory and practice of plant disease management; emphasis on integration of cultural, biological, chemical methods and plant disease resistance. Video-linked to Wooster.	
Au Sem. Prereq: 3001 (401) and 3002, or 6001, or permission of instructor. Not open to students with credit for 603.	
5604 Capstone Course: Problem-Based Studies in Plant Health	U G 2
Students will be presented with a current plant health problem from the industry. They will gather diverse information from consultants, synthesize novel solutions, and develop implementation plans.	
Prereq: Jr, Sr, or Grad standing in PlntPth, Entmlgy, or Plant Health Management. Not open to students with credit for Entmlgy 5604. Cross-listed in Entmlgy.	
5685 Plant Disease Diagnosis	U G 2
Study of field and laboratory procedures for diagnosis of plant diseases.	
Su Sem, May Term. Prereq: 3001 (401) and 3002, or 6001, or permission of instructor. Not open to students with credit for 685. Repeatable to a maximum of 4 cr hrs.	
6001 Advanced Plant Pathology	G 3
An advanced level of study in plant diseases caused by fungi, bacteria, viruses, nematodes and parasitic higher plants. For graduates. Video-linked to Wooster.	
Au Sem. Prereq: A course in Biological Sciences, and Grad standing; or permission of instructor. Not open to students with credit for 3001 (401) or 3002.	
6002.01 Advanced Plant Pathology Lab - Viruses and Bacteria	G 1
This course is intended to prepare students to be able to implement techniques used by virologists and bacteriologists in both lab and field settings.	
Prereq or concur: 5010 and 5020.	
6002.02 Advanced Plant Pathology Lab - Plant Pathogenic Fungi and Nematodes	G 1
This graduate course is intended to prepare students to be able to implement techniques used by nematologists and mycologists in both lab and field settings.	
Prereq or concur: 5030 and 5050.	
6193 Individual Studies	G 1 - 6
Problems may be selected in the various areas of plant pathology.	
Au, Sp, Su Sems. Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.	
7002 Plant Disease Epidemiology	G 3
Study of the dynamics of plant diseases; statistical modeling of plant disease epidemics. Video-linked to Wooster.	
Sp Sem. Prereq: 3001 (401) and 3002, or 6001, and an introductory Stat course; or permission of instructor. Not open to students with credit for 702.	
7003.01 Agricultural Genomics: Principles and Applications	G 2
Reviews the principles of most genomic technologies, new developments in the field and emphasize their application in agriculture. Video-linked to Wooster.	
Sp Sem. Prereq: MolGen 4500 (500) or Biochem 5613 (613), or permission of instructor. Concur: HCS 7003.02. Not open to students with credit for 7003 (703), or HCS 7003.	
7300 Plant Health Management Seminar	G 1
This course is designed to cover current topics in plant health management for students in the Master in Plant Health Management program. Topics and guest speakers may differ from semester to semester and will depend on student interest.	
Repeatable to a maximum of 6 cr hrs. Cross-listed in Entmlgy.	
8300 Current Topics in Plant Pathology	G 1 - 2
Readings from the current literature will be examined in detail for both technical and conceptual content. Video-linked to Wooster.	
Au, Sp, Su Sems. Prereq: Grad standing. Repeatable to a maximum of 6 cr hrs.	
8300.01 Molecular Fungal Biology, Genetics, and Genomics	G 2
Designed to explore the biology and genetics of fungal microorganisms. Topics include: fungal reproduction for the major clades, molecular underpinnings of growth, development, and interactions with diverse hosts and whole genome based studies of fungi, including proteomic and systems biology analyses. Primarily literature based.	
Prereq: 5040.	
8300.02 Host Resistance: History and Future Implications for Deployment	G 2
Focuses on the development and knowledge of host resistance and pathogenic diversity in determining what type of resistance should be deployed and explore factors that may impact future success of new genetically modified techniques.	
Prereq: 5603 or 5140; or permission of instructor.	

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8400	Molecular Bases of Plant Host-Microbe Interactions	G	3
Introduction to plant host-pathogen interactions, with emphasis on molecular bases of pathogen virulence and host resistance. Video-linked to Wooster.			
Sp Sem.	Prereq: 5010 (600.01), 5020 (600.02), 5030 (636), and 5040 (660); or permission of instructor. Not open to students with credit for 602, 841, 842 and 843.		
8899	Plant Pathology Seminar	G	1
Covers various ongoing research topics presented by current graduate students and invited speakers. Video-linked to Wooster.			
Au, Sp Sems.	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		
8901	Mentored Teaching in Plant Pathology	G	1 - 3
Students work with faculty members to gain intensive hands-on and mentored experiences focused on direct interaction with students and on the scholarly aspects of teaching.			
Prereq: Grad standing and completion of OSU Orientation on Teaching. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.			
8902	Mentored Extension/Outreach Teaching in Plant Pathology	G	1 - 3
Provides graduate students interested in Extension/Outreach programs with hands-on experience in developing and delivering extension educational programs and materials.			
Prereq: Grad standing. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is graded S/U.			
8999	Plant Pathology Research	G	1 - 15
Research for thesis of dissertation purposes only.			
Prereq: Grad standing. Repeatable. This course is graded S/U.			

Polish

1101	Elementary Polish I	U	4
Introduction to Polish; development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 2 or more years of study in this language in high school.			
Prereq: Not open to students with credit for 101. This course is available for EM credit. GE for lang course. FL Admis Cond course.			
1102	Elementary Polish II	U	4
Continued development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of this language through regular course enrollment or EM credit.			
Prereq: 1101 (101.01). Not open to students with credit for 102. This course is available for EM credit. GE for lang course. FL Admis Cond course.			
1103	Intermediate Polish I	U	4
Continued development of speaking, listening, reading, and writing skills in cultural context. Closed to native speakers of this language.			
Prereq: 1102 (102.01). Not open to students with credit for 103. This course is available for EM credit. GE for lang course.			
2104	Intermediate Polish II	U	4
Increasing functional ability in speaking, listening, reading, and writing practice, vocabulary-building; new grammar structures; start developing higher-level language skills in Polish. Closed to native speakers of this language.			
Prereq: 1103 (104.01). Not open to students with credit for 407.01.			
3101	Advanced Polish I	U	3
Further develop speaking, listening, reading, and writing skills and grammar competence.			
Prereq: 2104. Not open to students with credit for Slavic 5194 (Au13, Cretu).			
3102	Advanced Polish II	U	3
Further develop speaking, listening, reading, and writing skills and grammar competence.			
Prereq: 3101. Not open to students with credit for Slavic 5194 (Sp15, Advanced Polish).			
5230	Polish Literature	U G	3
Polish cultural and intellectual history as represented in the major works of Polish literature and in contemporary media. Taught in English. Readings in English, but students of Polish will do portions of the readings in the original.			
Prereq: 6 cr hrs of Literature courses at the 2000 level or above, or permission of instructor. Not open to students with credit for 630 and 631.			

Political Science

1100	Introduction to American Politics	U	3
Introduction to American politics, the institutions and processes which create public policy, the strengths and weaknesses of the American political systems.			
Prereq: Not open to students with credit for 3100 (300), 101, or 101H. This course is available for EM credit. GE soc sci orgs and polities course. SS Admis Cond course.			
1100H	Introduction to American Politics	U	3
Introduction to American politics, the institutions and processes which create public policy, and the strengths and weaknesses of the American political systems.			
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 3100 (300), 101, or 101H. GE soc sci orgs and polities course. SS Admis Cond course.			

1165	Introduction to Politics	U	3
Introduction to politics and political science: power, democracy and authoritarianism, political participation, the state, political institutions, subfields of the discipline, and political research methodology.			
Prereq: Not open to students with credit for 165 or 165H. GE soc sci orgs and polities course. SS Admis Cond course.			
1165H	Introduction to Politics	U	3
Introduction to politics and political science: power, democracy and authoritarianism, political participation, the state, political institutions, subfields of the discipline, and political research methodology.			
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 165 or 165H. GE soc sci orgs and polities course. SS Admis Cond course.			
1200	Introduction to Comparative Politics	U	3
Introduction to modern nation-states outside of the United States: problems of state- and nation-building, representation, conflict, and making of government policy in selected countries.			
Prereq: Not open to students with credit for 100 or 100H. This course is available for EM credit. GE soc sci orgs and polities and diversity global studies course. SS Admis Cond course.			
1200H	Introduction to Comparative Politics	U	3
Introduction to modern nation-states outside of the United States: problems of state- and nation-building, representation, conflict, and making of government policy in selected countries.			
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 100 or 100H. GE soc sci orgs and polities and diversity global studies course. SS Admis Cond course.			
1300	Global Politics	U	3
Cooperation and conflict in world politics. Covers basic theories of international relations and key issues, including security, political economy, international organizations, and the environment.			
Prereq: Not open to students with credit for 145 or 145H. GE soc sci human, nat, and econ resources and diversity global studies course.			
2150	Voters and Elections	U	3
Study of US elections, focusing on voter attitudes, group behavior, and political participation.			
Prereq: Not open to students with credit for 201 or 201H. GE soc sci indivs and groups course. SS Admin Cond course.			
2150H	Voters and Elections	U	3
Study of U.S. elections, focusing on voter attitudes, group behavior, and political participation.			
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 201 or 201H. GE soc sci indivs and groups course.			
2194.01	Group Studies in American Politics	U	1 - 3
Group studies in American politics.			
Repeatable to a maximum of 6 cr hrs or 2 completions.			
2194.02	Group Studies in Comparative Politics	U	1 - 3
Group studies in comparative politics.			
Repeatable to a maximum of 6 cr hrs or 2 completions.			
2194.03	Group Studies in International Politics	U	1 - 3
Group studies in international politics.			
Repeatable to a maximum of 6 cr hrs or 2 completions.			
2194.04	Group Studies in Political Theory	U	1 - 3
Group studies in political theory.			
Repeatable to a maximum of 6 cr hrs or 2 completions.			
2194.05	Group Studies in Public Policy	U	1 - 3
Group studies in public policy.			
Repeatable to a maximum of 6 cr hrs or 2 completions.			
2300	American Foreign Policy	U	3
The role of the United States in world politics since the Second World War, emphasizing structural change in economic and political-military relations.			
Prereq: Not open to students with credit for 245 or 245H. GE soc sci orgs and polities and diversity global studies course.			
2367	Contemporary Issues in American Politics	U	3
Discussion of and critical writing about controversies in contemporary American politics; aimed at fostering analytical abilities in reading comprehension, oral, and written expression.			
Prereq: 101 or 300, and English 110 or 111, and Soph standing; or permission of instructor.			
Not open to students with credit for 367.01 or 367.01H. GE writing and comm course: level 2 and soc sci orgs and polities course.			
2400	Introduction to Political Theory	U	3
An introduction to the field of political theory through classic and contemporary texts and selected case studies.			
Prereq: Not open to students with credit for 210 or 210H. GE soc sci orgs and polities course. SS Admis Cond course.			

2400H Introduction to Political Theory

U 3

An introduction to the field of political theory through classic and contemporary texts and selected case studies.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 210 or 210H. GE soc sci orgs and polities course.

3115 Introduction to the Policy Process

U 3

Introduction to the workings of policy-making processes within governments, and the use of social science reasoning to evaluate and improve the content of policies.
Prereq: Not open to students with credit for 305.

3170 Political Psychology

U 3

Introduces students to political psychology, its development from parent disciplines, its topics and problems, its research results and methods, and their applications to current affairs.
Prereq: Not open to students with credit for 403 or Psych 403.

3191 Political Science Internship

U 1

Combines experience in political institutions or policy processes with analysis of that experience.
Prereq: Permission of the department. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

3220 Politics of the Developing World

U 3

A general introduction to the theoretical and substantive literature dealing with the historical development and contemporary characteristics of the new states of Asia and Africa.
Prereq: Not open to students with credit for 541. GE soc sci human, nat, and econ resources and diversity global studies course.

3225 Post-Conflict Reconstruction

U 3

Examines why some countries recover quickly from war while other countries remain poor and undeveloped. Examines current explanations of post-conflict development; provides background knowledge and tools to evaluated explanations.
GE soc sci human, nat, and econ resources and diversity global studies course.

3290 Comparative Public Policy

U 3

This course serves as an introduction to public policy in comparative perspective; its focus is on wealthy democracies. The first part of the course explores broad theories about how and why public policy differs so dramatically across countries. The second part of the course focuses on cross-national differences across specific policy domains.

3310 Defense Policy and National Security

U 3

This course addresses some of the basic issues surrounding national security policy. The primary focus is on policy issues related to the use of force between and within countries. The goal of the course is to provide the analytical tools and factual knowledge that are necessary to identify and assess current and future threats to national security.

3310H Honors Defense Policy and National Security

U 3

This course addresses some of the basic issues surrounding national security policy. The primary focus is on policy issues related to the use of force between and within countries. The goal of the course is to provide the student with the analytical tools and factual knowledge that they will need to identify and assess current and future threats to national security.
Prereq: Honors standing, and PolitSc 1300 (145) or 2300 (245); or permission of instructor. Not open to students with credit for 3310.

3420 Political Theories of Democracy

U 3

An examination of theories of democracy, focusing on normative and descriptive dilemmas such as participation versus liberty in democratic societies.
Prereq: 2400 (210). Not open to students with credit for 571.

3430 Political Theories of Freedom

U 3

Provides an overview of the various ways in which the value of human freedom has been understood and pursued in political life.
Prereq: 2400 (210). Not open to students with credit for 570.

3450 Ethics and Public Policy

U 3

Contemporary approaches to public policy evaluation and their ethical foundations, including efficiency, security, rights, welfare, and equity.
Prereq: Not open to students with credit for 304.

3460 Global Justice

U 3

Examines the idea of justice between states and among the people of the world. What would a just world look like? How should we live in our unjust world? Current debates about war, the environment, diversity and poverty will be considered.

3596 Nationalism and Ethnicity

U 3

Explores socio-political identities, especially ethnicity and nationality, from a comparative perspective. Drawing upon theories from political science, psychology, anthropology, sociology, and economics, we will study the origins and characteristics of these identities, as well as their consequences for democracy, economic development, and violent conflict.
GE soc sci indivs and groups and cross-disciplinary seminar course.

3596H Honors Nationalism and Ethnicity

U 3

Explores socio-political identities, especially ethnicity and nationality, from a comparative perspective. Drawing upon theories from political science, psychology, anthropology, sociology, and economics, we will study the origins and characteristics of these identities, as well as their consequences for democracy, economic development, and violent conflict.
Prereq: Honors standing, or permission of instructor. GE soc sci indivs and groups and cross-disciplinary seminar course.

3780 Data Literacy and Data Visualization

U 3

Introduction to the tools of data analysis in political science, with an emphasis on data visualization.
GE data only course.

3780H Data Literacy and Data Visualization

U 3

Most social science debates can be addressed with data, and sources of data are growing exponentially. This course introduces students to tools of data analysis and principles behind their use in the context of social-science applications.
GE data only course.

3905 Political Manipulation

U 3

Examines how political actors manipulate the rules and the salience and availability of information to shift political outcomes in their favor.
Prereq: Not open to students with credit for 577.

3910 Identity Politics

U 3

Explores who controls the meaning of identity in society; examining identity from the perspective of liberal, sociological, and social psychological, structuralist, and institutionalist theories.

Prereq: Not open to students with credit for 547.

4110 The American Presidency

U 3

An examination of the American presidency, emphasizing the contemporary role of the president, the institutionalized presidency, and theories of presidential behavior.
Prereq: Not open to students with credit for 501.

4115 Bureaucracy and Public Policy

U 3

An examination of bureaucracies as political institutions, and a consideration of their role in several areas of public policy implementation.
Prereq: Not open to students with credit for 510.

4120 U.S. Congress

U 3

Analysis of legislatures and legislators, with a focus on the U.S. Congress and some attention to state legislatures and representative assemblies in other countries.
Prereq: Not open to students with credit for 517. GE soc sci orgs and polities course.

4123 Political Crisis and Reform

U 3

A survey of previous episodes of major reform in American politics, focusing on strategies used by reformers, evaluating the policy and political impact of their reforms, and applying lessons from these cases to contemporary political problems.
GE historical study and soc sci orgs and polities course.

4125 American State Politics

U 3

Comparative analysis of politics in the American states.

Prereq: 1100 (101) or 3100 (300) or permission of instructor. Not open to students with credit for 507.

4126 Ohio Politics

U 3

Examination of state politics with special reference to Ohio.

Prereq: Not open to students with credit for 506.

4127 Governing Urban America

U 3

This course will examine the major problems facing urban communities in the 21st Century; the economic, social, and political forces that have historically shaped - and continue to influence - their development; the role of government in addressing urban problems; and the major participants and stakeholders in city politics.

Prereq: Not open to students with credit for 505.

4127H Governing Urban America

U 3

This course will examine the major problems facing urban communities in the 21st century; the economic, social, and political forces that have historically shaped--and continue to influence--their development; the role of government in addressing urban problems; and the major participants and stakeholders in city politics.

Prereq: Honors standing. Not open to students with credit for 4127 (505).

4130 Law and Politics

U 3

Analysis of the roles of judges and lawyers as participants in the American political process; analysis of courts as political institutions.

Prereq: Not open to students with credit for 516.

4132H Supreme Court Decision Making

U 3

Study of explanations for Supreme Court decisions; use of those explanations and independent research to predict justices' positions in current cases.

Prereq: Honors standing or permission of instructor. Not open to students with credit for 521H.

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4135 American Constitutional Law	U	3	4193 Individual Studies	U	1 - 10
Assessment of the contemporary realities of U.S. governmental authority as interpreted by the judiciary; emphasis on judicial review, case and controversy requirements, and legislative and executive power.			Students will devote their time to special projects including papers, exams and practical political experience.		
Prereq: Not open to students with credit for 520.			Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.		
4136 Civil Liberties	U	3	This course is graded S/U.		
An examination of civil liberties decisions by American courts, their legal and political bases, and their effects on government and society.			4200 Politics of Modern Democracies	U	3
Prereq: Not open to students with credit for 519.			A survey of the basic institutions and politics of modern democracies, with emphasis on representativeness and democratic stability.		
4137 The Politics of Legal Decision Making	U	3	Prereq: Not open to students with credit for 535.		
An examination of the literature relating social-science theories and research to the law, focusing on the criminal justice system.			4210 Politics of European Integration	U	3
Prereq: Not open to students with credit for 515.			A survey of the politics of European integration since the Second World War; topics include theories of political integration, institutions of the EU, its policies and decision making, common currency, and internal and external relations.		
4138 Women and the Law	U	3	Prereq: Not open to students with credit for 528.		
An examination of the legal status of women and the ways in which law affects the situation of women in American society.			4212 From Dictatorship to Democracy in Spain, Portugal, Italy and Greece	U	3
Prereq: Not open to students with credit for 514.			Survey of the emergence and distinguishing characteristics of stable democracies and modern societies in Spain, Portugal, Italy and Greece.		
4139 Gun Politics	U	3	Prereq: Not open to students with credit for 532. GE soc sci orgs and polities and diversity global studies course.		
Examination of the arguments and issues surrounding gun control in the United States.			4216 East European Politics	U	3
Prereq: Not open to students with credit for 518.			Systematic comparison of the sources, dynamics, and outcomes of political, economic, and social transformations in the former Communist countries of Eastern Europe.		
4139E Gun Politics	U	3	Prereq: Not open to students with credit for 530.		
Examination of the arguments and issues surrounding gun control in the United States.			4218 Russian Politics	U	3
Prereq: Not open to students with credit for 4139 (518).			Survey of the politics of Russia and the former soviet states with emphasis on democratization, economic reform, institutional development, elites, mass behavior, and ideology.		
4140 Black Politics	U	3	Prereq: Not open to students with credit for 533.		
Economic, political, and social constraints on the development of black political power; the efforts made by black people in recent times to organize for effective political action.			4219 European Political Development	U	3
Prereq: Not open to students with credit for 504 or AfAmAST 4504 (504). Cross-listed in AfAmAST 4504.			Uses experience of France, Germany, Great Britain, and Italy as foundation for understanding the emergence, functioning, and sustainability of different types of political regimes over time.		
4143 Race, Ethnicity, and American Politics	U	3	Prereq: Not open to students with credit for 529.		
The goal of this course is to explore, discuss, and better understand the relationship between perceptions of racial identity, attributions of racial difference, and politics, broadly defined.			4230 Chinese Political System	U	3
4150 American Political Parties	U	3	A study of the contemporary political process of Communist China; considerable time will be spent on an analysis of recent political change in China and the process of revolution.		
Theories of political parties, party organization, individual voting behavior, nomination and electoral politics, the party in government.			Prereq: Not open to students with credit for 537.		
Prereq: Not open to students with credit for 575. GE soc sci orgs and polities course.			4236 Southeast Asian Politics	U	3
4152 Campaign Politics	U	3	Government and politics in the Philippines, Indonesia, Indo-China, Malaysia, Thailand, Burma; problems of this region in relation to world politics.		
The organization and strategy of American political campaigns; practical politics seen in the light of knowledge about political behavior and public opinion.			Prereq: Not open to students with credit for 636.		
Prereq: Not open to students with credit for 502.			4240 Latin American Politics	U	3
4160 Public Opinion	U	3	A study of political processes, institutions, and groups in Latin America, with emphasis on constitutional, geographical, social, and economic environments in which they operate.		
Origins and nature of political attitudes; the content of public opinion; the public's influence on policy-making.			Prereq: Not open to students with credit for 540.01.		
Prereq: Not open to students with credit for 503.			4242 Incomplete Democracies	U	3
4162 Religion and American Politics	U	3	Explores various forms of violence including electoral violence and political assassination, organized crime, police brutality, and other human rights abuses in Latin America.		
Investigates the relationship between politics and religion in America, considering historical context and influence of religion on political culture, coalitions and political behavior.			Prereq: Soph standing or above. Not open to students with credit for 542 or IntStd 4242 (542). Cross-listed in IntStd.		
Prereq: Not open to students with credit for 576.			4245H Democratic Erosion	U	3
4164 Political Participation and Voting Behavior	U	3	How do democracies become less democratic? This course will explore the causes and consequences of democratic breakdown in countries around the world and over time.		
A study of political participation and its correlates, determinants of the vote decision, and analysis of recent American elections.			Prereq: Honors standing, or permission of instructor.		
Prereq: Not open to students with credit for 574.			4249 Domestic Politics of International Conflict	U	3
4165 Media and American Politics	U	3	Examination of war and the impact of domestic politics on the war-making decision; influence of domestic institutions and public opinion on leaders' ability/willingness to wage war.		
This course presents the modern study of the media and its role in the American political system, including supply and demand pressures and how they affect media content, its effects on citizens, and the emerging role of social media in politics.			Prereq: Not open to students with credit for 579.		
Prereq: Not open to students with credit for 509.			4250 African Politics	U	3
4170 Gender and Politics	U	3	An introductory survey of Sub-Saharan African politics from the pre-colonial period to the contemporary era. It will examine the common themes, issues, and trends that shape politics and development across forty-nine countries. Students will gain an understanding of how context shapes political behavior and how historical and political forces have influenced African politics.		
An examination of women's participation in political activity, including changes over time in women's political roles and comparison with the roles of men.			Prereq: Not open to students with credit for 4597.02 (Au13, African Politics), 4250H, or AfAmAST 4250. GE soc sci orgs and polities and diversity global studies course. Cross-listed in AfAmAST.		
Prereq: Not open to students with credit for 512.			4250H African Politics	U	3
4175 Women, Government, and Public Policy	U	3	An introductory survey of Sub-Saharan African politics from the pre-colonial period to the contemporary era. It will examine the common themes, issues, and trends that shape politics and development across forty-nine countries. Students will gain an understanding of how context shapes political behavior and how historical and political forces have influenced African politics.		
An examination of policymaking on gender-related issues and the impact of women in government.			Prereq: Honors standing. Not open to students with credit for 4597.02 (Au13, African Politics), 4250, or AfAmAST 4250. GE soc sci orgs and polities and diversity global studies course.		
Prereq: Not open to students with credit for 513 or WGSSt 4513 (513). Cross-listed in WGSSt 4513.					
4191 Internship	U	0 - 10			
Combines experience in political institutions or policy processes with analysis of that experience in light of relevant scholarly literature.					
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions.					

4270 The Canadian Political System

U 3

The Canadian political system, including institutional, behavioral, socio-economic, cultural, and ideological components, often in comparison with the United States' political system.
Prereq: Not open to students with credit for 527.

4280 State and Economy

U 3

Introduction to comparative political economy; relations between the state and the economy, politics and markets, and democracy and capitalism; the consequences of state intervention.
Prereq: Not open to students with credit for 580.

4282 The Politics of Income Inequality

U 3

Introduces fundamental politics of income inequality and redistribution, including social policy development, redistributive policy differences between countries, and popularity of differing welfare programs.
Prereq: Not open to students with credit for 582.

4285 The Comparative Politics of the Welfare State

U 3

Analyzes different kinds of welfare capitalism including social, economic, and political considerations shaping welfare policy; and contemporary welfare reform as an exercise in reallocation, reorganization, and budget-cutting.
Prereq: Not open to students with credit for 578.

4300 Theories of International Relations

U 3

Various theories of world politics, such as realism, liberalism, long cycles, domestic and bureaucratic politics, and decision-making level theory.
Prereq: 1300 (145). Not open to students with credit for 550.

4305 International Theory

U 3

Various theories of world politics, such as realism, liberalism, long cycles, domestic and bureaucratic politics, and decision-making level theory.
Prereq: 1300 (145).

4310 Security Policy

U 3

National security and military policy issues and trends since 1945; covers containment, deterrence, Vietnam, nuclear weapons, terrorism, and globalization.
Prereq: Not open to students with credit for 552.

4315 International Security and the Causes of War

U 3

Examines various issues regarding international conflict and cooperation, including theories of strategic interaction and the causes of war.
Prereq: Not open to students with credit for 544.

4318 The Politics of International Terrorism

U 3

Examines international terrorism's concepts and actors, the motivations and causes of terrorism, the experience of the United States, and tensions between freedoms and security.
Prereq: Not open to students with credit for 548.

4320 Strategies for War and Peace

U 3

Examination of how political leaders make decisions, emphasizing such issues as leaders' reasoning processes and the impact of public opinion and foreign policy bureaucracies.
Prereq: Not open to students with credit for 545.

4326 Russian Foreign Policy

U 3

Basic concepts about, and choices in, Russian foreign policy; development and presentation of patterns of relations with key nations; major problems in future relationships.
Prereq: Not open to students with credit for 555.

4327 Politics in the Middle East

U 3

Politics of Arab-Israeli relations, Persian Gulf, Islamic fundamentalism, and oil; processes of change and their effects on governments and international relations.
Prereq: Not open to students with credit for 546.

4330 Global Governance

U 3

Examination of emergence and form of global governance, including questions of legitimization, democratization, and enforcement; as well as collective security, humanitarian intervention, and proliferation.
Prereq: Not open to students with credit for 556.

4331 The United Nations System

U 3

Activities and potential of the United Nations system in promoting economic well-being, environmental management, resource sharing, social justice, and control of violence.
Prereq: Not open to students with credit for 551.

4332 Politics of Globalization

U 3

Examines globalization's origins, impacts on human welfare, and political conflicts that arise from it, including actions of governments, multinational corporations, and the anti-globalization movement.
Prereq: Not open to students with credit for 557.

4335 International Environmental Politics

U 3

Theories and debates over sustainable development, environment, and security, and effectiveness of international regimes with a focus on international fisheries management and global climate change.
Prereq: Not open to students with credit for 559.

4380 Political Analysis of International Economic Relations

U 3

Examines the relationship between political and economic events in the international system; topics include global interdependence, inequality, scarce resources, and periphery nation strategies.

Prereq: Not open to students with credit for 553 or 553H.

4381 Comparative International Political Economy

U 3

A survey of foreign economic policies followed by European and other advanced industrial economies since the Napoleonic Wars, with a special emphasis on Britain, France, Germany, the United States, and Japan.

Prereq: Not open to students with credit for 554.

4385 Quantitative Studies of International Conflict

U 3

Acquaints students with the quantitative literature on conflict and war.

Prereq: 4781 or equiv. Not open to students with credit for 4385E.

4385E Quantitative Studies of International Conflict

U 3

Acquaints students with the quantitative literature on conflict and war.

Prereq: 4781 or equiv. Not open to students with credit for 4385.

4455 Human Rights

U 3

Examines human rights, including the United Nations Declaration on Human Rights; coercive enforcement of rights; as well as hunger, violence, persecution, and economic rights.

Prereq: Not open to students with credit for 564.

4465 Feminist Political Theory

U 3

Examines concepts in feminist political theory including the articulation of feminism, the subjects of feminist theory, the relation of race, class and sexuality to gender experience, and the use of feminist theory to transform conceptions of justice.

Prereq: Not open to students with credit for WGSSt 4465. Cross-listed in WGSSt.

4553 Game Theory for Political Scientists

U 3

Provides entry-level understanding of the basic concepts of game theory and how these concepts are applied to the study of political phenomena.

Prereq: Not open to students with credit for 567.

4553H Game Theory for Political Scientists

U 3

Provides entry-level understanding of the basic concepts of game theory and how these concepts are applied to the study of political phenomena.

Prereq: Not open to students with credit for 4553 (587).

4597.01 International Cooperation and Conflict

U 3

An examination of the relationships industrialized countries have with each other and developing nations; focus on potential for cooperation and conflict.

Prereq: Jr or Sr standing. Not open to students with credit for 597.01 or 597.01H. GE cross-disciplinary seminar.

4597.02 Political Problems of the Contemporary World

U 3

Critical political problems of industrialized and developing societies, including governmental legitimacy, conflict and violence, social welfare, equality, and economic development.

Prereq: Jr or Sr standing. Not open to students with credit for 597.02, 597.02E, or 597.02H. GE cross-disciplinary seminar course.

4597.02H Political Problems of the Contemporary World

U 3

Critical political problems of industrialized and developing societies, including governmental legitimacy, conflict and violence, social welfare, equality, and economic development.

Prereq: Honors standing or permission of instructor; and Jr or Sr standing. Not open to students with credit for 597.02, 597.02H, or 597.02E. GE cross-disciplinary seminar course.

4597.03 Gender and Democracy in the Contemporary World

U 3

Highlighting perspectives from various contexts across the globe, this course explores issues of gender and democracy in the contemporary world.

Prereq: Sr standing, or permission of instructor. Not open to students with credit for 597.03 or WGSSt 4597 (597). GE cross-disciplinary seminar course. Cross-listed in WGSSt 4597.

4780 Thesis Research Colloquium

U 3

Designed for Political Science majors writing senior theses. We will study the elements of a successful research paper including how to formulate a question, how to identify the right method for investigating it, and how to conduct research.

Concur: Second semester Jr standing, or permission of instructor.

4781 Data Analysis in Political Science I

U 3

Covers basic techniques for analyzing data in political science.

Prereq: Math 1151 and one course in PolitSc at the 3000 level or above; or permission of instructor. Not open to students with credit for 485, 4781H (485H), 585, or 585H. GE data anal course.

4782 Data Analysis in Political Science II

U 3

Covers advanced techniques for analyzing data in political science.

Prereq: Math 1151 and 4781 (485), or permission of instructor. Not open to students with credit for 586.

4784 Complexity Science and the Study of Politics

U 3

Familiarize students with agent-based models and complexity science to better understand political behavior.

Prereq: 3780 or 4781, or permission of instructor. Not open to students with credit for 4784E.

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4784E Complexity Science and the Study of Politics	U	3	5000 Quantum Mind and Social Science	U G	3
Familiarize students with agent-based models and complexity science to better understand political behavior.					
Prereq: 3780 or 4781, or permission of instructor. Not open to students with credit for 4784.			Examines the growing, if still speculative, possibility that consciousness and therefore society are macroscopic quantum mechanical phenomena. If that's right, today's social sciences are based upon a fundamental mistake since they assume that human beings are classical machines. Replacing classical assumptions in social science with quantum ones would be a revolution in thought.		
Prereq: Permission of instructor.					
4891 Topics in American Politics	U	3	5411 Justice, Sin, and Virtue: Ancient & Medieval Political Thought	U G	3
Selected topics in American politics; topics vary by section and instructor. Repeatable to a maximum of 6 cr hrs.					
4891H Honors Seminar in American Politics	U	3	This course focuses on foundational texts in western political thought: from ancient Athens, republican and imperial Rome, the Christian middle ages, and the Italian Renaissance. These works deal with themes that remain central in modern political life, including social justice, political action and religious faith, and the struggle between civic virtue and self-interest.		
Intensive study of selected political science topics and issues in a seminar format; topics vary. Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.			Prereq: Not open to students with credit for 4411 (470), or 6411 (670).		
4892 Topics in Comparative Politics	U	3	5412 Life, Liberty, and Property: Early Modern Political Thought	U G	3
Selected topics in comparative politics; topics vary by section and instructor. Repeatable to a maximum of 6 cr hrs.					
4893 Topics in International Politics	U	3	Why do we have government? What are the proper limits of its authority? What should we do when its demands conflict with our moral or religious beliefs? These questions lie at the center of early modern political thought, and gave rise to the idea of the social contract.		
Selected topics in international politics; topics vary by section and instructor. Repeatable to a maximum of 6 cr hrs.			Prereq: Not open to students with credit for 4412 (471) or 6412 (671).		
4893H Honors Seminar in International Politics	U	3	5413 Democracy, Equality & Revolution: 19th Century Political Thought	U G	3
Intensive study of selected political science topics and issues in a seminar format; topics vary. Prereq: Honors standing or permission of instructor. Repeatable to a maximum of 12 cr hrs.			This course examines some of the earliest and most influential attempts to wrestle with the practical implications of living in a world where people were not only considered equal in theory, but were becoming equal in fact. Topics of discussion will include the relationship between liberty and equality, individualism and conformity, alienation and exploitation, and morality and power.		
4894 Topics in Political Theory	U	3	Not open to students with credit for 6413 (672) or 4413 (472).		
Selected topics in political theory; topics vary by section and instructor. Repeatable to a maximum of 6 cr hrs.			Prereq: Not open to students with credit for 4414 (473) or 6414 (673).		
4894H Honors Seminar in Political Theory	U	3	5414 Liberalism, Totalitarianism, and Empire: 20th Century Political Thought	U G	3
Intensive study of selected political science topics and issues in a seminar format; topics vary. Prereq: Honors standing or permission of instructor. Repeatable to a maximum of 12 cr hrs.			The 20th century was a time of unprecedented transformations: world wars, genocide, the collapse of colonialism and the spread of capitalism. This course examines the political theories that contributed to these developments as well as efforts to understand these changes.		
4910 Business-Government Relations	U	3	Prereq: Not open to students with credit for 4414 (473) or 6414 (673).		
Explores the relationships between business and government, including topics ranging from regulatory politics and legislative lobbying, to trade politics and multinational corporations, to business ethics.			6194.01 Contemporary Political Problems	G	3
Prereq: Not open to students with credit for 511.			Contemporary political problems.		
4910H Business-Government Relations	U	3	Repeatable to a maximum of 18 cr hrs or 6 completions.		
Explores the relationships between business and government, including topics ranging from regulatory politics and legislative lobbying, to trade politics and multinational corporations, to business ethics.			6194.02 Contemporary American Political Problems	G	3
Prereq: Honors standing or permission of instructor. Not open to students with credit for 511 or 511H.			Contemporary political problems.		
4920 Politics in Film and Television	U	3	Repeatable to a maximum of 18 cr hrs or 6 completions.		
Political films and TV shows often convey an understanding of the political world. How films portray the political process may influence society's attitudes toward politicians and government. Students will compare the portrayal of politics in films and TV to the reality as understood through political science. This is not part of the Film Studies major and does not count toward requirements.			6194.03 Contemporary Comparative Political Problems	G	3
Prereq: Not open to students with credit for 4920H.			Contemporary political problems.		
4920H Politics in Film and Television	U	3	Repeatable to a maximum of 18 cr hrs or 6 completions.		
Political films and TV shows often convey an understanding of the political world. How films portray the political process may influence society's attitudes toward politicians and government institutions. Students will compare the portrayal of politics in films and TV to the reality as understood through political science. This is not part of the FilmStd major and does not count toward requirements.			6194.04 Contemporary International Political Problems	G	3
Prereq: Honors standing. Not open to students with credit for 4920.			Contemporary political problems.		
4940 The Politics of Immigration	U	3	Repeatable to a maximum of 18 cr hrs or 6 completions.		
Provides overview of international migration phenomenon: patterns of international migration, reasons for immigration, acceptance of immigrants by governments and public, dynamics of anti-immigrant sentiment.			6194.05 Contemporary Theoretical Political Problems	G	3
Prereq: Not open to students with credit for 543.			Contemporary political problems.		
4998 Undergraduate Research in Political Science	U	1 - 10	Repeatable to a maximum of 18 cr hrs or 6 completions.		
Undergraduate research in variable topics.			6350 Politics of Global Climate Change	G	3
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.			Climate change is among the most important challenges of our time and is the subject of heated political debate within and across countries. This course provides an advanced overview of the politics of climate change, with an emphasis on its international and global dimensions.		
This course is graded S/U.			Prereq: Grad standing.		
4999 Undergraduate Thesis Research	U	2 - 4	7000 Foundations of Political Science	G	3
Thesis research with thesis adviser. Minimum of two semesters required of candidates for BA with research distinction in political science. Must meet standards for graduation with research distinction.			Introductory study of diverse efforts to ground knowledge of politics, positivist, and post-positivist views of science, sources of formal rigor, and interpretation and evaluation.		
Prereq: Sr standing, and enrollment in PolitiSc major, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.			Prereq: Not open to students with credit for 790.		
4999H Honors Thesis Research	U	2 - 4	7095 Teaching Political Science	G	1
Honors thesis research with thesis adviser. Minimum of two semesters required of candidates for BA with distinction in political science.			Examination of issues in teaching political science in colleges and universities, and preparation for teaching careers.		
Prereq: Honors standing, and Sr standing, and enrollment in Political Science major, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.			Prereq: Not open to students with credit for 795. Repeatable to a maximum of 2 completions.		
This course is graded S/U.			This course is graded S/U.		
7100 Foundations of American Politics	G	3	7101 Classics in American Politics	G	3
Introduction to central research areas and literature of the field of American politics.					
Prereq: Not open to students with credit for 709.			Examination of basic concepts and approaches; consideration of methodological and substantive problems encountered at various levels of analysis.		
Prereq: Not open to students with credit for 709.			Repeatable to a maximum of 6 cr hrs or 2 completions.		

7110 The American Presidency	G 3	7193.05 Political Methodology	G 1 - 10
Examination of presidential research and analysis of literature on selected aspects of the presidency.		Individual studies in political science; student work is evaluated by papers and/or special examinations.	
Prereq: Not open to students with credit for 701.		Repeatable to a maximum of 36 cr hrs or 36 completions. This course is graded S/U.	
7115 Bureaucratic Politics	G 3	7200 Basic Theories in the Study of Comparative Politics	G 3
Intensive readings in the research literature on American political bureaucracy.		Examination of such concepts and theories as structural-functional analysis, general systems theory, and sociocultural systems as determinants of governmental structures.	
Prereq: Not open to students with credit for 817.		Prereq: Not open to students with credit for 725.	
7120 Legislative Politics	G 3	7205 Democratic Transitions	G 3
Analysis of the functioning and policy product of American legislatures; intensive reviews of selected aspects of the legislative literature to be conducted.		Theoretical examination of the dynamics of the transition from authoritarian to democratic regimes, with special attention to southern Europe and South America.	
Prereq: Not open to students with credit for 717.		Prereq: Not open to students with credit for 744.	
7125 Federalism	G 3	7206 Comparative Political Institutions	G 3
Examination of how multi-level governance shapes the incentives of political elites and affects the ability of voters to hold officials accountable. Covers both American and comparative politics topics and substantive questions dealing with political institutions and mass behaviors.		Study of state building process, regime types, and contemporary governmental institutions from a broad cross-national perspective.	
Prereq: Not open to students with credit for 704.		Prereq: Not open to students with credit for 776.	
7130 Courts	G 3	7208 State-Building	G 3
Examination of the judicial process with emphasis on the work of trial courts and the roles of courts as policy makers.		Where do national states come from? How strong are they? Course surveys contemporary answers to both questions, examining political, military-strategic, ecological, and cultural explanations for formation and development of national states in Europe.	
Prereq: Not open to students with credit for 715.		Prereq: Not open to students with credit for 726.	
7140 Race and Ethnicity	G 3	7212 Southern European Politics	G 3
An examination of the role of race and ethnicity in American politics, including public opinion, political incorporation, electoral behavior, and minority representation.		A comprehensive overview of government and politics in Greece, Italy, Portugal, and Spain.	
Prereq: Not open to students with credit for 707.01 or 707.02.		Prereq: Not open to students with credit for 727.02.	
7150 Readings in American Political Parties	G 3	7220 The Politics of the Developing World	G 3
Intensive study of literature on selected aspects of American political parties.		Theories, approaches, and methods in the analysis of political life in Asia, Africa, and Latin America; discussion of selected case and cross-national studies with theoretical importance.	
Prereq: Not open to students with credit for 775.		Prereq: Not open to students with credit for 741.	
7155 Interest Groups	G 3	7230 Chinese Politics	G 3
Roles and impact of interest groups in American politics, including formation, recruitment, and maintenance of organizations; grassroots mobilization; and lobbying in legislatures, courts, and bureaucracies.		A seminar for the purpose of reading advanced scholarly materials on contemporary Chinese politics.	
Prereq: Not open to students with credit for 711.		Repeatable to a maximum of 9 cr hrs.	
7160 Public Opinion	G 3	7250 Comparative Political Parties and Interest Groups	G 3
Intensive analysis of literature on selected topics in public opinion.		Comparative analysis of the nature and role of political parties and interest groups in contemporary societies.	
Prereq: Not open to students with credit for 703.		Prereq: Not open to students with credit for 7789 (789) in AEDEcon or BusMktg or Econ or EduPL or Geog or JCom or Psych or PubHlth or PubPolM or Sociol, and Stat 778.	
7164 Political Behavior	G 3	7264 Comparative Political Behavior	G 3
Intensive examination of literature on selected topics in the area of participation and voting behavior in the United States.		A cross-national examination of political behavior, including such topics as socialization, participation, voting, elite behavior, mass-elite linkages.	
Prereq: Not open to students with credit for 774.		Prereq: Not open to students with credit for 777.	
7168 Political Communication	G 3	7280 Comparative Political Economy	G 3
A graduate-level examination of the role of communication in American politics, acquainting the student with the literature on political communication and stimulating ideas for original research in political communication.		A graduate-level course designed to survey contemporary theories on the interaction between economic policies, domestic institutions, the international economy, and their consequences on the macroeconomy.	
Prereq: Not open to students with credit for 713 or Comm 7713 (713). Cross-listed in Comm 7713.		Prereq: Not open to students with 1 completion for 7280 (735). Repeatable to a maximum of 6 cr hrs. Cross-listed in Econ 6745.	
7170 Gender and Politics	G 3	7281 The Political Economy of Income Inequality, Volatility, and Mobility	G 3
An examination of the role of gender in American politics, including public opinion, electoral behavior, political institutions, and policy making.		Examines patterns, political and institutional foundations, and consequences of income inequality, volatility, and mobility, plus dynamic aspects of income distributions.	
Prereq: Not open to students with credit for 712.		Prereq: Not open to students with credit for 781.	
7190 Readings on the Policy Process	G 3	7300 Theories of International Relations	G 3
Consideration of the basic theories, concepts, and techniques used in policy analysis; the determinants of public policy; and the impact and evaluation of public policy.		Examination of such basic concepts and theories as equilibrium models, balance of power, national interest, geopolitical configurations.	
Prereq: Not open to students with credit for 779.		Prereq: Not open to students with credit for 745.	
7193.01 American Politics	G 1 - 10	7310 Security Policy	G 3
Individual studies in political science; student work is evaluated by papers and/or special examinations.		Theories of conflict and war causation and an assessment of their durability in a new era of world politics.	
Repeatable to a maximum of 36 cr hrs or 36 completions. This course is graded S/U.		Prereq: Not open to students with credit for 752.	
7193.02 Comparative Politics	G 1 - 10	7312 Critical Security Studies	G 3
Individual studies in political science; student work is evaluated by papers and/or special examinations.		Introduces students to the Political Science subfield of Critical Security Studies (CSS).	
Repeatable to a maximum of 36 cr hrs or 36 completions. This course is graded S/U.		Prereq: Not open to students with credit for 8194.03 (Sp15, Critical Security).	
7193.03 International Politics	G 1 - 10	7315 Conflict and Peace	G 3
Individual studies in political science; student work is evaluated by papers and/or special examinations.		Sources and types of social conflict with special attention to international violence; causes of war; their avoidance and control.	
Repeatable to a maximum of 36 cr hrs or 36 completions. This course is graded S/U.		Prereq: Not open to students with credit for 751.	
7193.04 Political Theory	G 1 - 10	7320 Foreign Policy Design	G 3
Individual studies in political science; student work is evaluated by papers and/or special examinations.		Problems of designing foreign policy, including organizational, contextual, economic, and public opinion constraints; how to create an information retrieval system to aid decision-making.	
Repeatable to a maximum of 36 cr hrs or 36 completions. This course is graded S/U.		Prereq: Not open to students with credit for 756.	

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7330 International Organization: Global Governance	G	3	7720 Political Psychology and International Relations	G	3
Examination of global governance in such terms as changing political, legal, and normative contexts; security, economic, and environmental issues; state and non-state actors; and tools such as force, discipline, and law.					
Prereq: Not open to students with credit for 760.					
7334 International Organization: Rationalist Approaches	G	3	7780 Political Science Research Methods	G	3
Comprehensive view of international governmental, non-governmental, and business organizations; their roles in solving problems such as poverty, war, pollution; particular attention to the United Nations system.					
Prereq: Not open to students with credit for 759.					
7336 International Order	G	3	7781 Text as Data	G	3
Discussion of the leading books written on the subject of international order.					
7340 Social Theories of International Relations	G	3	7785 Experimental Design	G	3
An examination of the main themes, debates, and social theories of world politics.					
Prereq: Not open to students with credit for 748.					
7375 Quantitative Studies of International Security	G	3	7788 Selected Topics in Political Methodology	G	3
Survey of quantitative empirical studies of war, civil war, militarized disputes, and conflict.					
Prereq: 7553 (786). Not open to students with credit for 849.					
7380 Theories of International Political Economy	G	3	7880 The Field of Political Economy	G	3
Contemporary literature in international political economy; its ties to classical schools of thought in international relations and political economy; points of contention between them.					
Prereq: Not open to students with credit for 753.					
7381 Institutions and International Political Economy	G	3	7888 Field Research Methods	G	3
Examines international political economy from the perspective of institutions and institutionalist theories in political science, economics, and international relations.					
Prereq: Not open to students with credit for 770.					
7400 Fundamental Concepts in Political Theory	G	3	7905 Political Institutions	G	3
A graduate survey of the scope, concepts, and methods of political theory, examining important debates throughout political science through works of both canonical and contemporary thinkers.					
Prereq: Not open to students with credit for 763.					
7410 Radical Cosmopolitanism	G	3	8000 Writing and Publishing in Political Science	G	3
The notion of cosmopolitanism has enjoyed renewed interest among political and critical theorists. This course engages critically with Immanuel Kant's classic account and examines its roots and anthropological commitments seriously and puts it in dialogue with colonial and post-colonial intellectuals, including W. E. B. Du Bois who thought systematically about justice beyond the nation.					
Prereq: Not open to students with credit for 7499 (Au 2015).					
7420 Democratic Theory	G	3	8194.01 Contemporary Political Problems: US	G	3
Democratic theory.					
Prereq: Not open to students with credit for 764.					
7499 Selected Topics in Political Theory	G	3	8194.02 Contemporary Political Problems: Comparative	G	3
Intensive joint readings and discussions concentrating upon one of the major themes, problems, or movements in political theory; topic information available from instructor.					
Prereq: Not open to students with credit for 766.					
7551 Quantitative Political Analysis: I	G	3	8194.03 Contemporary Political Problems: International	G	3
Explication, interpretation, and application of techniques for quantitative analysis of political data; descriptive and inferential statistics, with emphasis on bi-variate analysis.					
Prereq: Not open to students with credit for 685.					
7552 Quantitative Political Analysis: II	G	3	8194.04 Contemporary Political Problems: Political Theory	G	3
Descriptive and inferential statistics with emphasis on multivariate analysis; additional topics offered as desired and possible: scaling, index construction, sampling, measurement reliability.					
Prereq: 7551. Not open to students with credit for 686.					
7553 Quantitative Political Analysis: III	G	3	8194.05 Contemporary Political Problems: Methodology	G	3
A continuation of subjects begun in 7552, including such topics as scaling, index construction, sampling, and measurement reliability.					
Prereq: 7551 and 7552. Not open to students with credit for 786.					
7681 Formal Theories of Politics I	G	3	8781 Research in American Politics	G	3
Major approaches used in modeling politics, including social choice, game theory, and probability models.					
Prereq: Not open to students with credit for 680.					
7700 Foundations of Political Psychology	G	3	8782 Research in Comparative Politics	G	3
Overview of the field of political psychology, causes, dynamics, and consequences of human thinking and action in politics.					
Prereq: Not open to students with credit for 806.					
7702 Survey and Questionnaire Design	G	3	8783 Research in International Politics	G	3
Theories of the survey research response process and their implications for question wording and question order effects.					
Prereq: Not open to students with credit for 702.					
7784 Research in Political Theory	G	3	8784 Research in Political Theory	G	3
Research seminar in political theory.					
Prereq: Not open to students with 12 cr hrs for 866. Repeatable to a maximum of 12 cr hrs.					
This course is graded S/U.					

8999 Dissertation Research in Political Science G 1 - 12

Research for dissertation purposes only.
Repeatable. This course is graded S/U.

Portuguese

1101.01 Portuguese I	U 4
Development of listening, reading, speaking, and writing skills in cultural contexts. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: Not open to students with credit for 101.01 or 101.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.	
1101.51 Portuguese I Individualized	U 1 - 4
Development of listening, reading, speaking, and writing skills in cultural contexts. This course is designed for individualized instruction. Completion of 4 cr hrs before end of semester required for 1102.51. Progress sequential cr hr to cr hr, with 80% proficiency required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: Not open to students with credit for Portgse 1101.01 (Portgese 101.01), 101.51, or 501. Repeatable to a maximum of 4 cr hrs or 4 completions. GE for lang course. FL Admis Cond course.	
1102.01 Portuguese II	U 4
Further development of listening, reading, speaking, and writing skills in cultural contexts. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: Portgse 1101.01 (Portgese 101.01) or 1101.51 (101.51). Not open to students with credit for Portgse 1102.51 (Portgese 102.51), 102.01, or 501. This course is available for EM credit. GE for lang course. FL Admis Cond course.	
1102.51 Portuguese II Individualized	U 1 - 4
Further development of listening, reading, speaking, and writing skills in cultural contexts. This course is designed for individualized instruction. Completion of 4 cr hrs before end of semester required for 1103.51. Progress sequential cr hr to cr hr, with 80% proficiency required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: A grade of B- or above in Portgse 1101.01 (Portgese 101) or 4 cr hrs in 1101.51 (101.51). Not open to students with credit for Portgse 1102.01 (Portgese 102.01), 102.51, or 501. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.	
1103.01 Portuguese III	U 4
Continued development of listening, reading, speaking, and writing skills in cultural contexts. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: Portgse 1102.01 (Portgese 101.01 and 102.01), 102.51, or 501. Not open to students with credit for Portgse 5502 (Portgese 502), 103.01, 103.51, 104, or 104.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.	
1103.51 Portuguese III Individualized	U 1 - 4
Continuing development of listening, reading, speaking, and writing skills in cultural contexts. This course is designed for individualized instruction. Progress sequential cr hr to cr hr, with 80% proficiency required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: A grade of B- or above in Portgse 1102.01 (Portgese 101.01 and 102.01) or 4 cr hrs in 1102.51 (102.51). Not open to students with credit for Portgse 5502 (Portgese 502), 103.01, or 103.51. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course	
2159 Narratives of Travel and Intercultural Contact in the Early Modern Imperial World	U 3
Studies relationship between literature and empire by reading early modern narratives of travel and intercultural contact, with particular attention to Portuguese role in European expansion. Prereq: Not open to students with credit for Portgese 159. GE lit and diversity global studies course.	
2193 Individual Studies	U 1 - 9
Independent study for subject matter not covered in regularly offered courses. Prereq: Permission of instructor. Repeatable to a maximum of 59 cr hrs or 59 completions. This course is graded S/U.	
2194 Group Studies	U 1 - 9
Group Studies. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.	
2330 Introduction to Brazilian Culture	U 3
Integrated, multidisciplinary overview of modern Brazilian culture in terms of its visual, plastic, musical, literary, dramatic, and popular arts within socio-economic and political context. Prereq: Not open to students with credit for Portgese 330. GE cultures and ideas and diversity global studies course.	
2331 Portuguese Culture and Society	U 3
Examines Portuguese culture, taking into account intersections with other cultural contexts (e.g., in Europe, Africa, Asia, and the Americas). Taught in English. Prereq: Not open to students with credit for Portgese 331. GE cultures and ideas and diversity global studies course.	

2335 Cannibal Brazil: Cultural Encounters and Negotiations of Identity in Literature and Culture U 3

Explores a fundamental topic within Brazilian culture, from colonial times to present; cannibalism as cultural practice in both literal and discursive realms.
Prereq: Not open to students with credit for 335. GE VPA course.

2797 Topics in Foreign Study U 1 - 9

Credit from study abroad for courses not offered by department at the GE level. Courses may be taught in Portuguese or English.
Prereq: Permission of departmental study abroad advisor. Repeatable.

2798.10 Contemporary Issues in Brazil: Cultural, Environmental, & Racial Politics in the SE & NE Regions U 3

Consists of lectures on special topics by the faculty of University of the UNESP-SJRP, and of ACBEU-Salvador, fieldtrips, and survival Portuguese classes. In Salvador, the course will explore some of the contemporary advances and challenges of the people of Bahia Brazil socially, culturally and environmentally.
GE education abroad course.

3401 Advanced Portuguese Grammar U 3

In-depth examination of difficult points of Portuguese grammar; emphasis on comprehension of key grammatical concepts in the language. Not open to native speakers of this language through regular course enrollment or EM credit.

Prereq: Portgse 1103.01 (Portgese 103.01 and 104.01) or 5502 (502), or equiv, or permission of instructor. Not open to students with credit for Portgese 401.

3402 Portuguese Reading and Listening U 3

Development of students' reading and listening skills through newspapers, magazines, radio and TV stories, and newscasts. Not open to native speakers of this language through regular course enrollment or EM credit.

Prereq: Portgse 1103.01 (Portgese 104) or 5502 (502), or permission of instructor. Not open to students with credit for Portgese 402.

3403 Portuguese Conversation and Composition U 3

Intensive practice in conversation and composition based on short stories written by Lusophone authors with review of grammar. Not open to native speakers of this language through regular course enrollment or EM credit.

Prereq: Portgse 1103.01 (Portgese 103.01 and 104.01) or 5502 (502), or equiv, or permission of instructor. Not open to students with credit for Portgese 202 or 403.

3450 Introduction to the Study of Literatures and Cultures U 3

Strategies for reading and extensive practice in analyzing literary and cultural texts from the Portuguese-speaking world.

Prereq: Portgse 3401 (Portgese 401), 3402 (402), 3403 (403) or 5502 (502), or permission of instructor. Not open to students with credit for Portgese 450.

3570 CLLC Radio U 3

Student partners prepare 3 target language broadcasts, each 1 hour in length. Broadcasts stream live over the Internet, then become podcast for public use. Student "DJs" conduct target language research on radio broadcast history and at least 15 thematic topics and related music that interests them. Students choose their music and content with approval and guidelines, then produce scripts.

Prereq: Permission of instructor.

4193 Individual Studies U 1 - 9

Individual studies.

Prereq: Portgese 3401 (Portgese 401), 3402 (402), 3403 (403); or 5502 (502) and Grad standing; or permission of instructor. Repeatable to a maximum of 59 cr hrs or 16 completions. This course is graded S/U.

4194 Group Studies U 1 - 9

Topics vary.

Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.

4510 Portuguese Translation U 3

Advanced practice in Portuguese-to-English translation based primarily on the contemporary written Portuguese of Brazil and Portugal; emphasis on formal grammar and style.

Prereq: Portgse 3401 (Portgese 401), or permission of instructor. Not open to students with credit for Portgese 510.

4550 Literatures of the Portuguese Speaking World U 3

In-depth study of a major topic or problem in the literatures and cultures of the Portuguese-speaking world (Portugal, Brazil, Lusophone Africa and Lusophone Asia).

Prereq: 3450 (450) with a C- or better; or 5502 (502) and Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

4560 Cultural Expressions of Portugal and Lusophone Africa U 3

The culture of Portugal and Portuguese Africa from their founding to the present through the study of selected Portuguese-language literature, news, and film.

Prereq: Portgse 3450 (Portgese 450); or 5502 (502), and Grad standing; or permission of instructor. Not open to students with credit for Portgese 560.

4561 Cultural Expressions of Brazil U 3

Study of the development of Brazilian culture through its Portuguese language, literature, folklore, music, art, and film; special emphasis on contemporary issues.

Prereq: Portgse 3450 (Portgese 450); or 5502 (502), and Grad standing; or permission of instructor. Not open to students with credit for Portgese 561.

372 Portuguese

4595 Special Topics in Foreign Study	U	1 - 9	5650 Studies in Literatures and Cultures of the Portuguese-Speaking World	U G	3
Credit from study abroad for courses not offered by department but eligible for Portuguese major core. Arranged only with permission of Departmental study abroad adviser.			Intensive exploration of a specific topic or problem; topic varies, for example: modern Brazilian novel, Luso-African literature, Portuguese poetry since 1974.		
Prereq: Portgse 3450 (Portgese 450); or 5502 (502), and Grad standing; or permission of instructor. Used only to convert Portgse 5797 (Portgese 697) credit to more appropriate level. Repeatable to a maximum of 59 cr hrs or 16 completions.			Prereq: 3450 (P450) and one 4500 (500) level literature and/or culture course; or 5502 (502) and Grad standing; or permission of instructor. Not open to students with credit for 650. Repeatable to a maximum of 9 cr hrs.		
4597.01 Coloniality and Postcoloniality in the Literatures of Portugal and Portuguese-Speaking Africa	U	3	5797 Study at a Foreign Institution	U G	1 - 9
Focuses on literary representations of the Portuguese colonial experience in Africa in Portuguese and African texts, and their contribution to understanding contemporary postcolonial issues.			An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.		
Prereq: English 110. Not open to students with credit for Portgese 597.01. GE diversity global studies and cross-disciplinary seminar course.			Repeatable.		
4597.02 Representing Identity in the Cinema of the Portuguese-Speaking World	U	3	6193 Individual Studies	G	1 - 9
How film in the contemporary Portuguese-speaking world (e.g., Brazil, Portugal, Angola) reflects on race, ethnicity, multiculturalism, and transnational contact.			Individual studies.		
Prereq: English 110. Not open to students with credit for Portgese 597.02. GE diversity global studies and cross-disciplinary seminar course.			Prereq: Permission of instructor. Repeatable to a maximum of 59 cr hrs or 16 completions. This course is graded S/U.		
4606 Business Culture and Communication in Portuguese	U	3	6194 Group Studies	G	1 - 9
Use of Portuguese in work- and business-related situations; and development of oral and written language to be used in business.			Group studies.		
Prereq: Portgse 3401 (Portgese 401), 3402 (402), or 3403 (403); or 5502 (502), and Grad standing; or permission of instructor. Not open to students with credit for Portgese 606.			Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.		
4798 Study Tours	U	1 - 9	6999 Research for Thesis	G	1 - 9
Study Tour.			Research for thesis.		
Prereq: Permission of instructor. Repeatable to a maximum of 59 cr hrs or 16 completions. This course is graded S/U.			Prereq: Permission of instructor. Repeatable to a maximum of 59 cr hrs or 16 completions. This course is graded S/U.		
4998H Honors Research	U	1 - 9	7300 Studies in Portuguese Linguistics	G	3
Honors research.			Analysis of Portuguese morphology and phonology using contemporary linguistic framework; topic varies from year to year and may be historical or synchronic.		
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 59 cr hrs or 16 completions. This course is graded S/U.			Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
4999 Research for Thesis	U	1 - 9	7440 Cinema of the Portuguese-Speaking World	G	3
Undergraduate research for thesis.			In-depth study of a major topic or problem in the cinema of the Portuguese-speaking world (Portugal, Brazil, Lusophone Africa, and Lusophone Asia).		
Prereq: Permission of instructor. Repeatable to a maximum of 59 cr hrs or 16 completions. This course is graded S/U.			Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
4999H Research for Honors Thesis	U	1 - 9	7500 Studies in Literatures and Cultures of the Portuguese-Speaking World	G	3
Topics vary based on research interests.			In-depth study of topics in the literatures and cultures of Brazil, Portugal, Lusophone Africa, and Lusophone Asia.		
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 59 cr hrs or 16 completions. This course is graded S/U.			Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
5501 Portuguese for Spanish Speakers I	U G	3	8193.01 Individual Studies	G	1 - 9
Rapid introduction to Portuguese language intended for students with at least High Intermediate-level Spanish skills.			Independent Study of a focused problem or topic in the literatures and cultures of the Portuguese-speaking world.		
Prereq or concur: Spanish 3401, 3403, or 3404, or equiv, or permission of instructor. Not open to students with credit for Portgese 1101.01 (101), 1102.01 (102), 1103.01 (103.01), 104.01, or 501, or equiv.			Prereq: Permission of instructor. Repeatable. This course is graded S/U.		
5502 Portuguese for Spanish Speakers II	U G	3	8193.02 PhD Exam Preparation	G	1 - 9
Continuation of 501; Portuguese language for students with at least intermediate-level Spanish skills.			Independent Study to prepare for upcoming PhD examination.		
Prereq: 5501 (501). Not open to students with credit for 1101.01 (101.01), 1102.01 (102.01), 1103.01 (103.01) and 104.01, or equiv.			Prereq: Permission of instructor. Repeatable to a maximum of 99 cr hrs. This course is graded S/U.		
5510 Literatures and Cultures in Portuguese, From the Middle Ages to Neoclassicism	U G	3	8194 Group Studies	G	1 - 3
Overview of literature and culture in the Portuguese-speaking world from the twelfth to the eighteenth centuries.			Group study of focused problems and topics in the literatures and cultures of the Portuguese-speaking world.		
Prereq: 3450 (450) with a C- or better, or Grad standing; or permission of instructor.			Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions.		
5520 Literatures and Cultures in Portuguese, from Romanticism to Modernism	U G	3	8500 Seminar in Literatures and Cultures of the Portuguese-Speaking World	G	3
Overview of literatures and cultures of the Portuguese-speaking world in the nineteenth to the early twentieth centuries.			Detailed exploration of advanced issues in the literatures and cultures of Brazil, Portugal, Lusophone Africa and Lusophone Asia.		
Prereq: 3450 (Portgese 450) with a C- or better, or Grad standing; or permission of instructor.			Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
5530 Literatures and Cultures in Portuguese, from Modernism to the Present	U G	3	8999 Research for Dissertation	G	1 - 9
Overview of literatures and cultures of the Portuguese-speaking world in the early twentieth to the twenty-first centuries.			Research for dissertation.		
Prereq: 3450 (Portgese 450) with a C- or better, or Grad standing; or permission of instructor.			Prereq: Permission of instructor. Repeatable to a maximum of 59 cr hrs or 16 completions. This course is graded S/U.		
5611 The Portuguese Language	U G	3	Psychology		
Focus on the diversity of Portuguese. Examines the principal areas of linguistic variation in Portuguese and the main dialect differences between Brazil and Portugal. Students conduct basic analyses of linguistic data using computerized corpus tools for hypothesis-testing. Taught in Portuguese.					
Prereq: 3401 (401); or 5502 (502) and Grad standing; or permission of instructor. Not open to students with credit for Portgese 611.					
1100 Introduction to Psychology	U	3	1100 Introduction to Psychology	U	3
A prerequisite to advanced courses; a broad survey of psychological science. Application of the scientific method to the empirical study of behavior with emphasis on individual and cultural differences.			A prerequisite to advanced courses; a broad survey of psychological science. Application of the scientific method to the empirical study of behavior with emphasis on individual and cultural differences.		
Prereq: Not open to students with credit for 100, 1100H (100H) or 1100E (100E). This course is available for EM credit. GE soc sci indivs and groups and diversity soc div in the US course.			Prereq: Honors standing, or permission of instructor. Not open to students with credit for 1100 (100), 1100H (100H), or 100E. GE soc sci indivs and groups and diversity soc div in the US course.		
1100E Introduction to Psychology	U	3	1100E Introduction to Psychology	U	3
A prerequisite to advanced courses; a broad survey of psychological science. Application of the scientific method to the empirical study of behavior with emphasis on individual and cultural differences.			A prerequisite to advanced courses; a broad survey of psychological science. Application of the scientific method to the empirical study of behavior with emphasis on individual and cultural differences.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 1100 (100), 1100H (100H), or 100E. GE soc sci indivs and groups and diversity soc div in the US course.			Prereq: Honors standing, or permission of instructor. Not open to students with credit for 1100 (100), 1100H (100H), or 100E. GE soc sci indivs and groups and diversity soc div in the US course.		

1100H Introduction to Psychology

U 3

A prerequisite to advanced courses; a broad survey of psychological science. Application of the scientific method to the empirical study of behavior with emphasis on individual and cultural differences.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for 1100 (100), 1100E (100E), or 100H. GE soc sci indivs and groups and diversity soc div in the US course.

1200 Applied Psychology: Human Behavior in the Wild

U 3

Examines how psychological concepts & phenomena are applied in real world contexts, such as law, medicine, social communities, education, sports, business & engineering. It will introduce constructs & research in applied psychology with a focus on domains not covered in traditional intro psych courses. Practicum sessions will be used for student discussion & interactive activities.

GE soc sci indivs and groups and diversity soc div in the US course.

1300 Professional Development in Psychology

U 1

Professional Development in Psychology will provide students with information and skills to be successful as a psychology major and plan a career in psychology or a psychology-related field. Students will learn about the various resources available at the university to support their success in psychology and the options available to them following their undergraduate education.

Prereq: Psych major.

2220 Data Analysis in Psychology

U 3

Discussion of statistical analysis of psychological data - random samples, graphical and numerical techniques of descriptive statistics, correlation, regression, probability, sampling distribution, and hypothesis testing.

Prereq: 1100 (100) or 1100H (100H), and Stat 1450 (145), Math 1130, Math 1148 (148), Math 1149, 1150 (150), 1151 (151), or 152, or equiv, or Math Placement Level M or higher; or permission of instructor. Not open to students with credit for 220, 220H, 320, or 320H. This course is available for EM credit.

2220E Data Analysis in Psychology

U 3

Discussion of statistical analysis of psychological data - random samples, graphical and numerical techniques of descriptive statistics, correlation, regression, probability, sampling distribution, and hypothesis testing.

Prereq: Honors standing, and 1100 or 1100H, and Stat 1450, Math 1130, Math 1148, 1149, 1150, 1151, or equiv, or Math Placement Level M or higher; or permission of instructor. Not open to students with credit for 2220 or 2220H.

2220H Data Analysis in Psychology

U 3

Discussion of statistical analysis of psychological data - random samples, graphical and numerical techniques of descriptive statistics, correlation, regression, probability, sampling distribution, and hypothesis testing.

Prereq: Honors standing, and 1100 (100) or 1100H (100H), and Stat 1450 (145), Math 1130, Math 1148 (148), Math 1149, 1150 (150), 1151 (151), or 152, or equiv, or Math Placement Level M or higher; or permission of instructor. Not open to students with credit for 2220 (220), 220H, 320, or 320H.

2300 Research Methods in Psychology

U 3

An overview of issues, methods, and techniques of scientific psychological research. Students must be pursuing majors or minors in Psychology.

Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 300.

2301 Psychology of Extraordinary Beliefs

U 3

Considers beliefs in extraordinary phenomena through the application of the findings and principles of psychological science.

Prereq: Not open to students with credit for 301.

2303 Positive Psychology

U 3

Introduction to the field of positive psychology. Topics include positive affect, subjective well-being, optimism, psychological strengths, emotional intelligence, compassion, humor, and spirituality.

Prereq: Not open to students with credit for Psych 303.

2311 Psychology of Motivation

U 3

A survey of major approaches to motivation and the study of important concepts in motivation, with emphasis on everyday applications.

Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 311.

2333 Psychology of Human Sexuality

U 3

Overview of the psychology of human sexuality including the nature and variety of human sexual experience, theories and therapies regarding sexual issues.

Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 333.02.

2350 Contemporary Developmental Psychology

U 3

A survey course acquainting students with issues resulting from the social changes of the past decade and from an increased interest in the life span.

Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 350.

2367.01 Social Psychology

U 3

Survey of group processes as they affect individual behavior; topics include individual motivation, group behavior, attitudes, and perception of self and others.

Prereq: 1100 (100) or 1100H (100H), and English 1110.01, 1110.01H, 1110.02, 1110.02H, 1110.03, 110, or 111, or equiv, and Soph standing or above. Not open to students with credit for 3325 (325), 3325H (325H), or 367.01. GE writing and comm: level 2 and soc sci indivs and groups course.

2367.02 Abnormal Psychology Analysis

U 3

Major psychological disorders, such as anxiety, mood, & personality disorders, will be clinically described & diagnostically defined. Students will compare & contrast symptoms of psychological disorders with non-disordered behaviors, cognitions, & affects. The emphasis is on critical thinking & analysis of theories, research methods, & empirical findings regarding psychopathology & its treatment.

Prereq: 1100 (100) or 1100H (100H), and English 1110.01, 1110.01H, 1110.02, 1110.02H, 1110.03, 110, 111, or equiv, and Soph standing or above. Not open to students with credit for 3331 (331) or 3331H (331H). GE writing and comm course: level 2.

2376 Interpersonal Relationships

U 3

Surveys the scientific literature on interpersonal relationships, including family, friends, and romantic partnerships.

Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 376.

2389 Career Exploration in Psychology

U 3

Designed for psychology majors to explore career paths of interest, as well as facilitate vocational development and acquisition of career search skills. Credit does not apply to hours in the psychology major.

Prereq: 1100 (100) or 1100H (100H), and enrollment in Psych major. Not open to students with credit for 389.

2420 Psychology Applied to Sport

U 3

Psychological factors that influence sport participation and performance; psychological techniques to enhance performance; psychological problems associated with sport.

Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 420.

2462 Psychology of Creativity

U 3

A critical examination of conceptual, theoretical, and methodological problems related to the systematic study of creativity; special attention to background factors related to creative behavior.

Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 462 or 662.

3191 Internship in Psychology

U 1 - 12

Provides psychology majors with an opportunity to intern in a professional setting to integrate academic knowledge with experience in the world of work. Maximum 3 credit hours may be applied to the undergraduate Psychology major.

Prereq: 1100 (100) or 1100H (100H), and GPA 2.8 or above, and enrollment in Psych, and permission of instructor. Not open to students with credit for 489. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

3193.01 Individual Studies in Psychology

U 1 - 5

Specialized academic project by individualized agreement between instructor and student.

Maximum 3 credit hours may be applied to the undergraduate major in psychology.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions. This course is graded S/U.

3193.02 Individual Studies: Teaching of Psychology

U 1 - 3

Specialized study & experience in teaching of psychology. Classroom management, development of presentation materials & skills, demonstrations & active learning, & assessment. Maximum of 3 cr hrs may be applied to undergrad major in psychology.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 6 completions. This course is graded S/U.

3194 Group Studies

U 3

Various topics within the field of psychology.

Prereq: 1100 (100) or 1100H (100H). Repeatable to a maximum of 6 cr hrs.

3302 Perception and Language

U 3

Foundational issues in perceptual and cognitive psychology will be covered in the context of human language, examining communication via the eyes, ears, and hands.

Prereq: 1100 (100) or 1100H (100H), or permission of instructor. Not open to students with credit for 302.

3310 Sensation and Perception

U 3

Examination of how observers perceive their environment through sensory information; emphasis on major sensory systems including vision, audition, spatial orientation, touch, taste, and olfaction.

Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 310.

3310H Sensation and Perception

U 3

Examination of how observers perceive their environment through sensory information; with an emphasis on vision and audition.

Prereq: Honors standing, and 1100, 1100H, or 1100E. Not open to students with credit for 3310 (310).

3312 Memory and Cognition

U 3

An introduction to experimental study of human memory and cognition.

Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 312.

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3313 Introduction to Behavioral Neuroscience	U	3	3371H Language and the Mind	U	3
Introduction to the structure and function of the nervous system in relation to behavior. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 313.					
3313H Introduction to Behavioral Neuroscience	U	3	3375 Stereotyping and Prejudice	U	3
Introduction to the structure and function of the nervous system in relation to behavior. Prereq: Honors standing, and 1100 (100) or 1100H (100H). Not open to students with credit for 3313 (313).					
3321 Quantitative and Statistical Methods in Psychology	U	3	3513 Introduction to Cognitive Neuroscience	U	3
A concentrated examination of applications of statistical tools in inference in contemporary psychology; hypothesis testing, regression, correlation, and analysis of variance. Prereq: 1100 (100) or 1100H (100H), and a grade of B or above in 2220 (220) or 2220H (220H). Not open to students with credit for 321 or 321H.					
3321H Quantitative and Statistical Methods in Psychology	U	3	3530 Theories of Personality	U	3
A concentrated examination of applications of statistical tools in inference in contemporary psychology; hypothesis testing, regression, correlation, and analysis of variance. Prereq: Honors standing, and 1100 (100) or 1100H (100H), and a grade of B or above in 2220 (220) or 2220H (220H). Not open to students with credit for 321 or 321H.					
3325 Introduction to Social Psychology	U	3	3550 Psychology of Childhood	U	3
An introduction to research in social psychology; topics include individual motivation, group behavior, attitudes, and perception of self and others. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 2367.01 (367.01), 3325H (325H), or 325.					
3325H Introduction to Social Psychology	U	3	3550H Psychology of Childhood	U	3
An in-depth, empirically based introduction to research in social psychology; topics include individual motivation, group behavior, attitudes, and perception of self and others. Prereq: Honors standing, and 1100 (100) or 1100H (100H); or permission of instructor. Not open to students with credit for 2367.01 (367.01), 3325 (325), or 325H.					
3331 Abnormal Psychology	U	3	3551 Psychology of Adolescence	U	3
Examination of current theories and empirical findings regarding the major forms of psychopathology and treatment. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 2367.02, 331, 3331H (331H), or 3331E (331E).					
3331E Abnormal Psychology	U	3	3551H Psychology of Adolescence	U	3
Examination of current theories and empirical findings regarding the major forms of psychopathology. Prereq: Honors standing, and 1100 (100) or 1100H (100H); or permission of instructor. Not open to students with credit for 2367.02, 3331 (331), 3331H (331H), or 331E.					
3331H Abnormal Psychology	U	3	3624 Primate Cognition	U	3
Examination of current theories and empirical findings regarding the major forms of psychopathology. Prereq: Honors standing, and 1100 (100) or 1100H (100H); or permission of instructor. Not open to students with credit for 2367.02, 3331 (331), 3331E (331E), or 331H.					
3335 Psychology of Adjustment	U	3	4305 Introduction to Psychopharmacology	U	3
Examination of psychological concepts and theories related to individual adjustment and adaptation. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 335.					
3335E Psychology of Adjustment	U	3	4320 Psychological Science of Addiction	U	3
Examination of psychological concepts and theories related to individual adjustment and adaptation. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 3335 (335).					
3340 Introduction to Life Span Developmental Psychology	U	3	4475 The Self	U	3
Consideration of theories and research on psychological development across the lifespan; includes consideration of social policies that influence developmental outcomes. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 340, 340H, or 340E.					
3340E Introduction to Life Span Developmental Psychology	U	3	4485 Psychology and the Law	U	3
A survey of developmental psychology including some phylogenetic perspective. Prereq: Honors standing, and 1100 (100) or 1100H (100H); or permission of instructor. Not open to students with credit for 340, 340H, or 340E.					
3340H Introduction to Life Span Developmental Psychology	U	3	4501 Advanced Behavioral Neuroscience	U	3
Consideration of theories and research on psychological development across the lifespan; includes consideration of social policies that influence developmental outcomes. Prereq: Honors standing, and 1100 (100) or 1100H (100H); or permission of instructor. Not open to students with credit for 340, 340H, or 340E.					
3371 Language and the Mind	U	3	Advanced discussion of contemporary issues in behavioral neuroscience, including: synaptic pharmacology, drugs, and behavior; neurodegenerative diseases and the biological bases of psychopathology.		
Introduction to psychological processes for producing and understanding speech, the means by which these processes arise in the child, and their bases in the brain. Prereq: 1100, Ling 2000, or 5000. Not open to students with credit for 3371H, Ling 3701, or 3701H. GE soc sci indivs and groups course. Cross-listed in Ling 3701.					

4505 History of Psychology	U	3	4543 Psychology of Gender	U	3
Development of psychology from the 19th century to present status as science and profession. Emphasis on contributions and lives of psychologists.			An examination of the origins and implications of gender differences and similarities and the role that gender plays in the interpretation of behavior.		
Prereq: A grade of C- or above in 2220 and 2300. Not open to students with credit for 505.			Prereq: A grade of C- or above in 2220 and 2300. Not open to students with credit for 4543E.		
4508 Psychology of Judgment and Decision - Making	U	3	4545 Cross-Cultural Psychology	U	3
An overview of current models and empirical research on cognitive processes in human decision-making and judgment under risk or uncertainty.			Introduction to cross-cultural theories and research in various specialties in psychology (e.g., social, developmental, and counseling psychology).		
Prereq: A grade of C- or above in 2220 and 2300. Not open to students with credit for 508 or 4508H (508H).			Prereq: A grade of C- or above in 2220 and 2300.		
4508H Psychology of Judgment and Decision-Making	U	3	4552 Psychology of Adult Years	U	3
An overview of current models and empirical research on cognitive processes in human decision-making and judgment under risk or uncertainty.			Theory and research related to adulthood as a sequence of psychological stages involving adjustment and coping behaviors; relationship of adulthood to other life-span stages.		
Prereq: Honors standing, and a grade of C- or above in 2220 and 2300. Not open to students with credit for 4508 (508) or 508H.			Prereq: A grade of C- or above in 2220 and 2300.		
4509 Perception of Space and Motion in Sports	U	3	4554 Language Development	U	3
Discussion of cognitive, perceptual, and statistical issues that have special application to performance in sports.			A survey of children's language acquisition, including phonemes, words, morphology, and syntax. Roles for universal grammar, linguistic input, social interaction, and statistical learning are considered.		
Prereq: A grade of C- or above in 2220, 2300, and 3310.			Prereq: A grade of C- or above in 2220 and 2300. Not open to students with credit for 4554S.		
4510 Cognitive Psychology Laboratory	U	3	4554S Language Development-S	U	3
Training in experimental and quantitative methods in cognitive psychology; laboratory experiments include topics such as memory, perception, and attention.			A survey of children's language acquisition, including phonemes, words, morphology, and syntax. Roles for universal grammar, linguistic input, social interaction, and statistical learning are considered. Students will participate in a local elementary school literacy program.		
Prereq: A grade of C- or above in 2220 and 2300; and a grade of C- or above in 3302, 3310, or 3312; and enrollment in Psych major. Not open to students with credit for 4520.			Prereq: A grade of C- or above in 2220 and 2300. Not open to students with credit for 4554.		
4511 Psychological Testing	U	3	4555 Adolescent Sexuality	U	3
An overview of theoretical and practical aspects of the assessment and prediction of human behavior; topics include achievement, intelligence, personality, attitudes, interests, and interpersonal relations.			An examination of the psychological, biological, and social influences on adolescent sexuality.		
Prereq: A grade of C- or above in 2220 and 2300. Not open to students with credit for 511 or 597.02.			Prereq: A grade of C- or above in 2220 and 2300.		
4515 Psychology of Emotion	U	3	4571 Psychology of Developmental Disabilities	U	3
An examination of emotion focusing on how emotions are interconnected to other basic psychological processes such as cognition, motivation, decision making, and well-being.			Overview of developmental disabilities including causes, nature, and psychological characteristics; diagnosis and psychometric assessments; and behavioral, psycho-educational, and biological forms of prevention and intervention. 20-hr off-campus practicum req.		
Prereq: A grade of C- or above in 2220 and 2300.			Prereq: A grade of C- or above in 2220 and 2300.		
4518 Attitudes: Structure, Function, and Consequences	U	3	4597.01 Contemporary World: Aging, Health, and Psychological Functioning in the Modern World	U	3
Survey of theory and evidence related to the structure and functional value of attitudes and their effects on information processing, judgments, and behavior.			Addresses primary psychological, social, physical and economic changes related to aging and ramifications of these changes.		
Prereq: A grade of C- or above in 2220, 2300, and 2367 prior to SU13, 2367.01, 3325, 3325H, or 3375. Not open to students with credit for 518.			Prereq: 1100 (100), 1100H (100H), or 1100E (100E), and Jr or Sr standing; or permission of instructor. Not open to students with credit for 597.03. GE cross-disciplinary seminar course.		
4520 Social Psychology Laboratory	U	3	4623 Biological Clocks and Behavior	U	3
Training in experimental and quantitative methods in social psychology. Experiments include topics such as attitudes, persuasion, social cognition, and group processes.			The broad variety of biological rhythms of animals and humans, including ultradian, daily, lunar, tidal, and annual cycles. Properties of biological clocks and ways in which rhythms are generated and how they are synchronized to the external environment.		
Prereq: A grade of C- or above in 2220, 2300, and 2367 prior to SU13, 2367.01, 3325, 3325H, or 3375, and enrollment in Psych major. Not open to students with credit for 4510 (510) or 520.			Prereq: A grade of C- or above in 2220, 2300, and 3313; or a course in Physio.		
4521 Personnel Psychology	U	3	4630 Attitudes and Persuasion	U	3
Overview of theory, method, and practices of personnel psychology: job analysis, recruiting, personnel section, performance appraisal, and training.			Overview of the major psychological theories and research in the area of attitudes and persuasion - how people's opinions, beliefs, and evaluations are formed and modified.		
Prereq: A grade of C- or above in 2220 and 2300. Not open to students with credit for 521.			Prereq: A grade of C- or above in 2220, 2300, and 2367 prior to SU13, 2367.01, 3325, 3325H, or 3375. Not open to students with credit for 630.		
4522 Organizational Psychology	U	3	4644 Hormones and Behavior	U	3
Overview of theory, method, and practice of organizational psychology: motivation, job attitudes, leadership, groups, organizational design.			Exploration of the interactions among hormones, brain, and behavior through an integrative approach.		
Prereq: A grade of C- or above in 2220 and 2300. Not open to students with credit for 522.			Prereq: A grade of C- or above in 2220, 2300, and 3313; or a grade of B or above in 3313 and Neurosc 3000, and Neuroscience major. Not open to students with credit for 644 or Neurosc 5644 (644).		
4525 Psychology of Personal Security: Global and Local Perspectives	U	3	4998 Undergraduate Research in Psychology	U	1 - 5
Surveys the diverse psychological literature on personal security, a key ingredient in psychological well-being.			Supervised collaborative research in psychology.		
Prereq: 1100. Not open to students with credit for 525.			Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 8 completions. This course is graded S/U.		
4531 Health Psychology	U	3	4999.01 Thesis Research I	U	2
Introduction to health psychology; health-promoting and health-damaging behaviors; modification of health behaviors; stress and coping; management of illness; stress management strategies.			Seminar designed to support the writing of the Thesis proposal and data collection, including proposal structure, literature review, research ethics, the IRB process, and data collection methodology.		
Prereq: A grade of C- or above in 2220 and 2300. Not open to students with credit for 531.			Prereq: Enrollment in Psych, and candidate for degree with research distinction, and permission of department.		
4532 Clinical Psychological Science	U	3	4999.01H Honors Thesis Research I	U	2
Surveys the scientific foundations of clinical psychological interventions and assessment techniques and considers their implications for the profession of clinical psychology.			Seminar designed to support the writing of the Honors thesis proposal and data collection, including proposal structure, literature review, research ethics, the IRB process, and data collection methodology.		
Prereq: A grade of C- or above in 2220 and 2300; and a grade of C- or above in 2367.02 or 3331.			Prereq: Honors standing, and enrollment in Psych major, and candidate for degree with research distinction, and permission of department. Not open to students with credit for 783.01H or 783.02H.		
4540 Counseling Psychology	U	3	4999.02 Thesis Research II	U	2
Issues within the field of counseling psychology including assessment, counseling skills, multicultural issues, career, professional, and ethical issues.			Seminar designed to support data collection/analysis, and writing and defending of the Thesis, including quantitative methods, data interpretation, summary, and presentation, writing results and discussion, poster presentation, and oral defense.		
Prereq: A grade of C- or above in 2220 and 2300; and a grade of C- or above in 2367.02, 3331, 3335, or 3530.			Prereq: 4999.01.		

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4999.02H Honors Thesis Research II	U 2	5612 Introduction to Cognitive Science	U G 3		
Seminar designed to support data collection/analysis, and writing and defending of the Honors thesis, including quantitative methods, data interpretation, summary, presentation, writing results & discussion, poster presentation, and oral defense.					
Prereq: Honors standing, and 4999.01H; or permission of instructor. Not open to students with credit for 783.02H or 783.03H.					
5194 Group Studies	U G 2 - 3	5613H Biological Psychiatry	U G 3		
Topics vary from semester to semester and will be announced at least one month in advance. Prereq: 1100. Repeatable to a maximum of 12 cr hrs or 4 completions.					
5250 Mood Disorders: Classification, Etiology, and Treatment	U G 3	Provides a contemporary overview of the biological bases of several significant psychopathologies, including mood disorders, schizophrenia, and PTSD/dissociative identity disorders.			
A survey of the mood disorders, including depression, bipolar disorder, and several variants of these disorders. The course examines the mood disorders in depth, covering historical, cross-cultural, diagnostic, developmental, neuroscientific, etiological, and therapeutic issues.					
Prereq: Grade of C- or higher in 2220 and 2300, and a grade of C- or higher in one of the following: 2367.02, 3331, 3331H, 3331E, 3335, or 3530; or Grad standing.					
5309 Human Motor Control and Learning	U G 3	5614 Cognitive Neuroscience	U G 3		
Processes underlying the performance, learning, and adaptation of movement skills such as walking, running, driving, drumming, golfing, catching, text editing, and social communication. Selective perception, attention, and memory in the context of action. Multi-limb coordination and multi-tasking.					
Prereq: A grade of C- or above in 2220 and 2300; or Grad standing; or permission of instructor. Not open to students with credit for 4309.					
5425 Introduction to Functional Magnetic Resonance Imaging	U G 3	5618 Introduction to Computational Cognitive Neuroscience	U G 3		
A general introduction to the physical bases of Magnetic Resonance Imaging (MRI), the physiological bases and principles of functional MRI, MRI related safety issues, design and analysis of fMRI experiments, and the operation of the Siemens 3T Trio system with hands-on experience.					
Prereq: Grad standing, or permission of instructor.					
5600 Psychobiology of Learning & Memory	U G 3	Introductory survey of neural-network models, emphasizing their neural foundations and applications to perceptions, memory, and language. Hands-on explorations with simulation software.			
Integrate coverage of animal learning and human memory, focusing on three key components of the field: behavioral processes, brain systems, and clinical perspectives.					
Prereq: A grade of C- or above in 2220, 2300, and 3313; or a grade of B or above in 3313 and Neurosc 3000, and Neuroscience major; or Grad standing.					
5601 Comparative Psychology	U G 3	5620 Technology, Efficiency, and Happiness	U G 3		
Research on animal behavior by psychologists and ethologists; behavioral differences between species; emphasis on evolutionary and adaptive significance of the mechanisms underlying behavior.					
Prereq: A grade of C- or above in 2220, 2300, and 3313; or Grad standing.					
5602 Behavioral Genetics	U G 3	5621 Introduction to Event-Related-Potentials	U G 3		
Behavioral genetics is the field of study that examines the role of genetics in animal (including human) behavior. It is highly interdisciplinary, involving contributions from biology, genetics, epigenetics, ethology, psychology, & statistics. The goal is to provide knowledge concerning the interrelationship of genetics & behavior, & its implications for health & human development & education.					
Prereq: A grade of C- or above in 2220, 2300, and 3313; or a grade of B or above in 3313 and Neurosc 3000, and Neuroscience major; or Grad standing.					
5603 Stem Cells and the Brain	U G 3	5622 The Development of Brain and Behavior	U G 3		
This course will explore the biology, function and relevance of stem cells for brain and behavior from development through aging. Through lectures and primary research literature, we will discuss what it means to be a neural stem cell, how stem cells shape the brain, and what the role of stem cells might be in brain disorders and mental health.					
Prereq: A grade of C- or above in 3313, or Grad standing.					
5606 High-Level Vision	U G 3	5628 Developmental Cognitive Neuroscience	U G 3		
Examines the perceptual processes by which humans and other animals are able to obtain knowledge about the three-dimensional environment.					
Prereq: A grade of C- or above in 2220, 2300, and 3310; or a grade of C- or above in 3310, a grade of B or above in 3313 and Neurosc 3000, and Neuroscience major; or Grad standing.					
5608 Introduction to Mathematical Psychology	U G 3	5681 Development and Psychopathology	U G 3		
Survey of mathematical and computational modeling in psychology. Topics include psychophysical scaling, information processing, probabilistic choice, signal detection theory, model comparison, and Bayesian graphical modeling.					
Prereq: A grade of C- or above in 2300 and 3321; a grade of C- or above in 3321 and a grade of B or above in 3313 and Neurosc 3000, and Neuroscience major; or Grad standing.					
5610 Emotion Regulation: From Basic Science to Clinical Applications	U G 3	5684 Psychology of Delinquency	U G 3		
Despite the growing enthusiasm for understanding how people regulate their emotions, many questions remain unanswered. Are emotions always regulated? Can emotion regulation occur outside of conscious awareness? How can we incorporate the emotion regulation framework to understand and treat mental disorders? We will tackle these questions by adopting perspectives from various areas of psychology.					
Prereq: A grade of C- or above in 2220 and 2300; or Grad standing.					
5700 Training in Informal Science Outreach	U G 3	5797 Study at a Foreign Institution	U G 1 - 10		
The purpose of this course is to provide students with hands-on training in informal science education at the COSI museum. All students will learn to provide outreach education at the museum; advanced students will develop outreach materials, assist in the visible research operations, and mentor other students.					
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in Ling and EduTL.					
5832 Lifespan Sociomoral Development	U G 3	An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.			
Prereq: 1100 (100) and written permission of dept chairperson. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is progress graded.					
Cognitive, emotional and cross-cultural aspects of moral development and social behavior across the life span. Emphasis on current findings, basic theoretical issues and applied topics (e.g. treatment of antisocial behavior).					
Prereq: A grade of C- or above in 2220 and 2300; or Grad standing.					

5870	Neuroeconomics and Decision Neuroscience	U G	3
The focus of this course will be on the psychology and neuroscience underlying economic behavior. Discussion will cover various domains of economic decision making and what Neuroeconomics has taught us about them.			
Prereq: AEDEcon 2005, Stats 1450, 2450, Psych 2220, or Econ 3400; and Math 1148 or higher; and Econ 4001.01, 4001.02, 4001.03, AEDEcon 4001, Psych 3313, 3513, or 4508. Not open to students with credit for 5870. Cross-listed in Econ.			
5891	Proseminar in Cognitive Science	U G	2
Provides an in-depth examination of cognitive science from an interdisciplinary perspective. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs. Cross-listed in CSE, Ling, Philos, and SphHrng.			
5998	Seminar in Behavioral Neuroscience	U G	3
Team-taught seminar on selected topics from contemporary research areas in the field of behavioral neuroscience.			
Prereq: A grade of C- or above in 4501, and permission of instructor; or Grad standing, and permission of instructor.			
6193.01	Individual Studies: Clinical Psychology	G	1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.			
6193.03	Individual Studies: Developmental Psychology	G	1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.			
6193.04	Individual Studies: Cognitive Psychology	G	1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.			
6193.06	Individual Studies: Quantitative Psychology	G	1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.			
6193.07	Individual Studies: Social Psychology	G	1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.			
6193.08	Individual Studies: Behavioral Neuroscience	G	1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.			
6193.09	Individual Studies: Intellectual and Developmental Disabilities	G	1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.			
6609	Introduction to Mathematical Models in Experimental Psychology	G	3
An introduction to cognition with a focus on the application of mathematical models. Topic areas include memory, decision making, categorization, word recognition, priming, and reaction time. Prereq: Not open to students with credit for 609.			
6650	Seminar in Advanced fMRI Analysis Techniques	G	3
For students who have already completed the intro-level fMRI course. We will discuss techniques such as fMR-adaptation, retinotopic mapping, multi-voxel pattern analysis, functional connectivity, representational similarity analysis, real-time fMRI, etc. We will discuss journal articles and experiment ideas applying these techniques. This course is intended for students with prior fMRI experience. Prereq: 5425, or permission of instructor. Repeatable to a maximum of 15 cr hrs.			
6652	Empirically Supported Therapies for Children with Developmental Disabilities	G	3
The course will cover empirically-supported treatments from a variety of theoretical orientations, including behavioral, cognitive behavioral, and developmental approaches, as well as process by which therapies gain empirical support and standards by which a therapy is considered empirically supported. Various formats (e.g., individual, group, parent training) interventions will also be covered.			
6700	Introduction to the Language Sciences	G	3
A core course that provides students with a general overview of linguistics and surveys the areas covered by the specialization: Language and Cognition, Language and Brain Function, Language and Society, Language and Technology, and Language Description and Fieldwork. Guest faculty will present in their areas of expertise and students will read and prepare assignments in multiple areas. Prereq: Not open to students with credit for German 6700. Cross-listed in German.			

6808	Sex Differences in the Brain and Behavior	G	3
This seminar will explore sex differences in both normal and abnormal brain function and behavior and will address the genetic, hormonal and neural bases of these differences.			
Prereq: Not open to students with credit for 809.			
6809	Historical Development of Psychology	G	3
Development of psychology from the philosophical antecedents to its present status as a science and a profession; assignments in original sources as far as possible.			
Prereq: Not open to students with credit for 809.			
6810	Statistical Methods in Psychology I	G	4
Basic concepts of descriptive and inferential statistics; includes estimation, hypothesis testing, non-parametric techniques, and analysis of variance.			
Prereq: 2220 (220), or Grad standing, or permission of instructor. Not open to students with credit for 826 and 827.			
6811	Statistical Methods in Psychology II	G	4
Simple linear regression and correlation, multiple linear regression, interactions; introduction to other related methods such as nonlinear regression and random effects models.			
Prereq: 6810 (826 and 827), or equiv. Not open to students with credit for 828.			
6820	Introduction to Bayesian Statistics for Psychological Data	G	3
An introduction to Bayesian statistics & data analysis for graduate students in the Dept of Psychology. It reviews basic probability theory & Bayes theorem, provides a broad introduction to inference from the modern Bayesian perspective & contrasts that to more traditional frequentist inference. Topics covered include analysis of proportions & means, interval estimates, regression, & Bayes factors.			
Prereq: 6810 (828), and enrollment in Psychology.			
6822	Statistical Mediation, Moderation, and Conditional Process Analysis	G	3
The application of principles of linear modeling to exploring questions about mediated (mechanisms) and moderated (conditional) effects. Topics include classic and contemporary approaches to testing mediation and moderation hypotheses, path analysis, indirect and direct effects, probing and plotting interactions, and analytically integrating moderation and mediation analysis.			
Prereq: 6811 (828) or equiv, or permission of instructor.			
6835	Child Development	G	3
Major developmental aspects of childhood; review of theory, methodology, research studies, and historical and contemporary writing about children; consideration of interdisciplinary approaches.			
Prereq: Not open to students with credit for 835.			
6849	Research Methods in Developmental Psychology	G	3
A critical survey and evaluation of concepts and techniques in study of developmental psychology.			
Prereq: Not open to students with credit for 849.			
6850	Ethics and Professional Issues in Psychology of Intellectual and Developmental Disabilities	G	3
Considers ethical questions and dilemmas that psychologists encounter in their everyday practice, research, and teaching. It will take a problem-solving approach to ethical decision-making with students working toward consensus around constructive means for preventing problems, recognizing, approaching, and resolving ethical predicaments in the field of IDD Psychology.			
6851	Seminar on the Teaching of Psychology	G	5
Designed for first-time teachers of psychology; theory, philosophy, ethics, research, course planning and delivery, and practical strategies to promote teaching excellence.			
Prereq: Grad standing. Not open to students with credit for both 851 and 852.			
6853	Lifespan Developmental Psychopathology I	G	3
Part one of a two-course sequence surveying the major psychopathological disorders across the lifespan from a developmental psychopathology perspective.			
Prereq: Permission of instructor. Not open to students with credit for 844.01.			
6854	Lifespan Developmental Psychopathology II	G	3
Part two of a two-course sequence surveying the major psychopathological disorders across the lifespan from a developmental psychopathology perspective.			
Prereq: Not open to students with credit for 854.			
6861	Research Design and Methods in Clinical Psychology	G	3
Introduction to the theory and use of clinical methods in psychology, designed for first-year graduate students in clinical psychology.			
Prereq: Permission of instructor. Not open to students with credit for 861.			
6863	Psychometrics	G	3
In-depth coverage of classic and contemporary topics in psychological measurement including test construction, reliability, validity, Item Response Theory, and computerized adaptive testing.			
Prereq: Permission of instructor. Not open to students with credit for 864.06.			

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6865	Introduction to Clinical Psychology: History, Ethics, and Pragmatics	G	3	7718	Interdisciplinary Perspective on Autism Spectrum Disorders	G	3
	Overview of clinical interviewing skills, theory and application of a cognitive behavioral orientation to psychotherapy, and ethical issues in clinical psychology.				Teaches the analytical skills necessary to comprehend and formulate an interdisciplinary framework relating to major scientific and theoretical perspectives in autism spectrum disorders.		
	Prereq: Admission to psychology's clinical doctoral program. Not open to students with credit for 865.				Prereq: Permission of instructor. Not open to students with credit for 717.01 and 717.02. Cross-listed in EducSt, HthRhSc, Social Work, Nursing, and SphHrng.		
6866	Empirically Supported Treatments	G	2	7816	Action and Decision Making	G	3
	Examination of current theories and empirical findings regarding the major forms of psychopathology and treatment.				Considers theories of decision making in static and dynamic environments, and theories of action control in dynamic systems (e.g., those involved in driving, sports and music performance). Includes experience with simple dynamic simulations.		
	Prereq: Permission of instructor. Not open to students with credit for 866.02.				Prereq: Not open to students with credit for both 815 and 816.		
6867.01	Behavioral Medicine	G	3	7820	Fundamentals of Factor Analysis	G	3
	Behavioral medicine is an interdisciplinary field that examines health, disease prevention, illness, and disease progression. This course surveys the contributions by health psychologists to behavioral medicine. Topics include prevention, psychological responses to diagnosis and treatment, biobehavioral mechanisms of illness/disease, response to chronic illness, health behaviors, and emerging issues.				Basic Common Factor Model and its application in psychology; model, communality estimation, factor extraction, orthogonal and oblique rotation, factor scores, confirmatory factor analysis, use of computer programs.		
	Prereq: Grad standing in any health related discipline.				Prereq: Permission of instructor. Not open to students with credit for 820.		
6867.02	Behavioral Medicine-Cancer	G	3	7821	Covariance Structure Models	G	3
	This course provides follow-up to the general offering with a focus on cancer prevention & control. Topics include overview of cancer as an illness, cancer screening, biobehavioral responses to diagnosis & treatment, factors which place patients at risk for poor psychological/health outcomes, psychological interventions, issues relevant to diverse patient groups, & late effects complicating survivorship.				Theory and methods of testing models of covariance structures; general mathematical model, identification, parameter estimation, goodness of fit, model modification, and the use of computer programs such as LISREL.		
	Prereq: Grad standing in Psych or any health related discipline.				Prereq: 6811 (828) and 7820 (820), or permission of instructor. Not open to students with credit for 830.		
6870	Basic Principles of Social Psychology	G	3	7822	Fundamentals of Item Response Theory	G	3
	An overview of theory and research in experimental social psychology, emphasizing the basic motivational and information processing principles underlying the discipline.				Basic concepts underlying item response theory; overview of more advanced topics.		
	Prereq: Grad standing. Not open to students with credit for 870.				Prereq: 6811 (828), or permission of instructor. Not open to students with credit for 821.		
7187	Introduction to Clinical Practice	G	3	7823	Analysis of Repeated Measures and Longitudinal Data	G	3
	Overview of important topics relevant to the practice of psychology, with the goal of preparing clinical graduate students for their first practicum experience. Topics include ethics and legal statutes, diversity factors, concepts relevant to supervision and consultation, professional development, and common techniques used in therapy and assessment.				Review statistical methods for the analysis of repeated measures experiments and longitudinal studies, and investigate the way that participants change over time.		
	Prereq: Permission of instructor.				Prereq: Permission of instructor. Not open to students with credit for 831.07.		
7188	Practicum in Clinical Psychology	G	1 - 9	7840	Practicum I/DD Psychology	G	3 - 6
	Supervised practice in psychological assessment and intervention in the department's psychological services center. Open only to students in clinical psychology.				Observation of children in a representative variety of clinical settings with particular reference to developmental phenomena of growth and behavior; application of research, diagnostic and intervention methodology.		
	Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.				Prereq: 2nd yr Grad standing, and permission of instructor. Repeatable to a maximum of 18 cr hrs or 8 completions. This course is graded S/U.		
7189	Supervised Field Experience in Psychology	G	1 - 9	7845	Cognitive Development	G	3
	Supervised experience, either research or operational, in any agency doing professional psychological work such as a school system, a psychological clinic, an industrial personnel department, or a counseling center.				Intensive survey of theory and research in cognitive development, including development of perception, language, memory, concepts, reasoning, academic skills, and social cognition.		
	Prereq: Soph standing in Psych, and approval of local staff of area in which student is specializing. Supervised by member of local staff and, in the case of an external placement, some member of the outside agency approved by the Dept of Psychology. Repeatable to a maximum of 18 cr hrs or 15 completions. This course is graded S/U.				Prereq: Not open to students with credit for 845.		
7695.01	Seminar in Clinical Psychology	G	1 - 3	7847	Language Development	G	3
	Seminar in clinical psychology.				Survey of language acquisition, including phonemes, words, morphology, syntax.		
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.				Prereq: Not open to students with credit for 847.		
7695.02	Health Psychology	G	1 - 3	7858	Seminar in the Assessment of Developmental Disabilities	G	3
	Seminar in health psychology.				Expose students to relevant issues in the assessment of developmental disabilities. An emphasis is placed on intellectual disability and autism spectrum disorders.		
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.				Prereq: Permission of instructor. Not open to students with credit for 859.01.		
7695.03	Developmental	G	1 - 3	7864	Psychological Appraisal	G	3
	Seminar in developmental psychology.				Theories and methods of psychological appraisal; integration of different theories and approaches.		
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.				Prereq: Permission of instructor. Not open to students with credit for 864.01.		
7695.04	Cognitive	G	1 - 3	7871	Social Cognition	G	3
	Seminar in cognitive psychology.				Introduces research in social cognition: the study of the cognitive underpinnings of social behavior and the ways individuals think about our social world.		
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.				Prereq: 6870 (870), or Grad standing in Psych, or permission of instructor. Not open to students with credit for 871.01.		
7695.06	Quantitative	G	1 - 3	7872	Social Motivation	G	3
	Seminar in quantitative psychology.				Survey of Social Psychology.		
	Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.				Prereq: 6870 (870), or Grad standing in Psych, or permission of instructor. Not open to students with credit for 871.02.		
7708	Psychology of Judgment and Decision Making	G	3	7873	Attitudes and Persuasion	G	3
	Introductory graduate course in the psychology of judgment and decision making, including applications to health, law, economics, environmental issues, and social, cognitive, and clinical psychology.				Coverage of key psychological theories and research on attitudes and persuasion - how opinions, beliefs, and evaluations are formed and modified, and how they influence thinking and behavior.		
	Prereq or concur: Grad level course in statistical methods. Not open to students with credit for 708.				Prereq: Grad standing. Not open to students with credit for 630.		
7717	Interdisciplinary Perspective on Developmental Disabilities	G	3	7874	Research Methods in Social Psychology	G	3
	Introduction to the psychosocial, medical, and educational implications of developmental disabilities.				Overview of issues in designing and conducting research in social psychology with emphasis on the statistical, internal, external, and construct validity of social psychological research.		
	Prereq: Permission of instructor. Not open to students with credit for 717.01 or 717.03. Cross-listed in HthRhSc, EducSt, SocWork, Nursing, and SphHrng.				Prereq: Permission of instructor. Not open to students with credit for both 876.01 and 876.02.		

7893 Seminar in Developmental Psychology	G	1 - 3
Topics in developmental psychology.		
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.		
7894 Proseminar in Cognitive Psychology	G	2
Topics in cognitive psychology.		
Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs.		
7895 Current Issues in Cognitive Development	G	3
Current topics in cognitive development.		
Prereq: Not open to students with credit for 846. Repeatable to a maximum of 21 cr hrs or 7 completions. This course is graded S/U.		
7896 Special Topics in Quantitative Psychology	G	1 - 3
Special topics in quantitative psychology.		
Repeatable to a maximum of 36 cr hrs or 12 completions.		
7897 Topical Seminar in Social Psychology	G	2
A seminar offering in-depth analysis of a topic of current interest in social psychology.		
Enrollment is repeatable when the topic changes.		
Prereq: 6870 (870) or 8877 (875.01), or permission of instructor. Repeatable to a maximum of 16 cr hrs.		
7898 Advanced Seminar in Behavioral Neuroscience	G	1 - 3
Advanced topics in behavioral neuroscience.		
Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions.		
7899 IDD Seminar: Topics in Developmental Disabilities	G	1
This seminar course will provide students in the doctoral program in intellectual and developmental disabilities psychology with an overview of applied research and policy initiatives conducted by OSU-affiliated faculty and visiting scholars in the field.		
Repeatable to a maximum of 8 cr hrs. This course is graded S/U.		
7999 Thesis Research in Psychology	G	1 - 15
Research for masters thesis purposes only.		
Repeatable to a maximum of 60 cr hrs or 8 completions. This course is graded S/U.		
8191 Internship in Psychology	G	0 - 9
Full-time supervised training in an approved predoctoral internship agency; supervision and directed experiences coordinated by student's advisor, program training director, and internship training director.		
Prereq: PhD candidacy in clinical psychology, an approved dissertation proposal, and written permission of advisor. Repeatable to a maximum of 36 cr hrs or 4 completions. This course is graded S/U.		
8192 Internship in Intellectual and Developmental Disability Psychology	G	0 - 9
Full or part-time supervised training in an approved predoctoral internship agency; applied setting serving children or adults with IDD; supervision and directed experiences coordinated by student's advisor, program training director, and internship training director.		
Prereq: PhD candidacy in IDD Psychology, an approved dissertation proposal, and written permission of advisor. Repeatable to a maximum of 36 cr hrs or 4 completions. This course is graded S/U.		
8876 Professional Issues in Social Psychology	G	3
Overview of professional issues facing the social psychologist seeking an academic career - focus on review of journal articles and grants as well as broader issues.		
Prereq: Permission of instructor. Not open to students with credit for 876.03.		
8877 Current Research: Attitudes	G	3
Advanced training in the conduct, evaluation, and presentation of research related to attitudes, attitude change, and the consequences of attitudes for judgments and behavior. Cannot be taken concurrently with 8876.		
Prereq: Admission to Psychology's Social Psychology doctoral program. Repeatable to a maximum of 24 cr hrs.		
8878 Current Research: Social Cognition	G	3
Advanced training in the conduct, evaluation, and presentation of research related to social cognition. Cannot be taken concurrently with 8877.		
Prereq: Admission to Psychology's Social Psychology doctoral program. Repeatable to a maximum of 24 cr hrs.		
8880 Current Research in Decision Psychology	G	2
Advanced training in the conduct, evaluation, and presentation of research related to the psychology of decision making.		
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.		
8881 Cognitive and Affective Influences in Decision Making	G	3
Provides an introduction to recent trends in decision research. We make choices and perceive risk based on cognitive, affective, and motivational factors that influence how we perceive meaning and construct our preferences. The course will cover theoretical distinctions and their application to practical domains such as health, finances, and the environment.		
Prereq: Permission of instructor.		

8890 Topical seminar in Decision Psychology	G	2 - 5
Provides an in-depth analysis of a specialized research area in decision psychology. The course will cover theoretical distinctions and might cover their application to practical domains such as health, finances, and the environment. The course is repeatable when the topic changes.		
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions.		
8891 Advanced Seminar in Clinical Psychology	G	2 - 3
Advanced topics in clinical psychology.		
Repeatable to a maximum of 12 cr hrs or 6 completions.		
8896 Advanced Seminar in Quantitative Psychology	G	1 - 3
Advanced seminars in quantitative psychology.		
Prereq: Permission of instructor. Not open to students with credit for 831.08. Repeatable to a maximum of 15 cr hrs or 5 completions.		
8999 Dissertation Research in Psychology	G	1 - 15
Research for dissertation purposes only.		
Repeatable to a maximum of 60 cr hrs or 15 completions. This course is graded S/U.		

Public Affairs, John Glenn College

1100 Public Affairs Advising Survey	U	1
Introduction to the Public Affairs major at Ohio State, as well as University and Glenn School academic policies and procedures.		
Prereq: Permission of instructor. Not open to students with credit for 100. This course is graded S/U.		
1191 High School Internship	U	3
Part of an innovative public service internship program for selected high school seniors who are admitted to the OSU Academy. It is coupled with a related intensive academic seminar (PubAfrs 1190).		
Concur: 1190 (294). Not open to students with credit for 294.		
2110 Introduction to Public Affairs	U	3
Introduces students to the policymaking process and the core crafts on which schools of public affairs focus: policy analysis & evaluation and public administration & management.		
GE soc sci human, nat, and econ resources course.		
2120 Public Service and Civic Engagement	U	3
Introduces students to the role an engaged citizenry plays in a democracy; trends in civic engagement, the reasons behind these trends, and their consequences; issues of social equity in engagement; and strategies to increase civic participation. Recommended prereq: 2110.		
Prereq: Not open to students with credit for 240.		
2130 Leadership in the Public and Nonprofit Sectors	U	3
Students examine theories of leadership; learn the unique challenges of being a leader in the public or nonprofit sectors; analyze the practices, strategies, and habits of successful leaders; and assess their own leadership competencies. Recommended prereq: 2110.		
Prereq: Not open to students with credit for 290.		
2150 Introduction to Nonprofit Organizations	U	3
Introduces students to the world of nonprofit organizations, in particular those whose missions address social issues and public service.		
Prereq: Not open to students with credit for 337 or ArtsSci 337.		
2160 Exploring Public Affairs	U	1
Overview of public affairs as a field. Exposes students to relevant career opportunities. The course draws on experience of faculty and practicing professionals, providing public affairs perspectives in traditional and nontraditional career paths.		
Prereq: Open to John Glenn Learning Community students only or by permission of instructor.		
Repeatable to a maximum of 3 cr hrs. This course is graded S/U.		
2193 Individual Study	U	1 - 6
Individual studies in public affairs.		
Prereq: Fresh or Soph standing and permission of Associate Director of Academic Affairs and Research. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is graded S/U.		
2194 Group Studies	U	1 - 6
Designed to give groups of undergraduate students an opportunity to pursue special studies in topics not otherwise offered.		
Prereq: Fresh or Soph standing and permission of Associate Director of Academic Affairs and Research. Repeatable to a maximum of 18 cr hrs or 6 completions.		
2367 Writing and Communication in Public Affairs	U	3
Being an effective communicator can determine the reach and impact of policy, as well as the ability to influence change. In this course, you will become a better writer and speaker on a topic of public policy; including communicating to diverse audiences with differing information demands.		
Prereq: English 1110 or equivalent, and sophomore standing; or permission of instructor. GE writing and comm course: level 2.		
2500 History of Public Administration	U	3
This course is an introduction to the history of public administration around the world from the earliest time up to the present, and the emergence and development of government and governing over time.		
Prereq or concr: English 1110.xx. GE historical study course.		

380 Public Affairs, John Glenn College

3000 Public Policy Analysis U 3

Introduces students to the concepts, theories, and methods of applied policy analysis. Students develop an understanding of market failures and the tools available to public sector actors to mitigate them. Students also learn various methodological approaches to analyze public policy at the formulation and implementation stages.

Prereq: Econ 2001.01, 2001.02, or 2001.03, and GE Data Analysis course; or permission of instructor.

3110 Education Policy in a Changing World U 3

Provides an introduction to education policy for public sector leaders and an overview of the following topics: education and the economy; education and governance; teaching and learning in education; student outcomes; and career opportunities in education policy.

3140 Nonprofit Management and Governance U 3

Survey and analysis of nonprofit organization management and governance, in particular those whose missions address social issues and public service.

Prereq: Not open to students with credit for 594 (WI 2011 only).

3500 Public Management U 3

Students are introduced to public management concepts and gain the competencies required to become effective public managers. They consider the unique challenges of managing public organizations and learn how to apply management tools to improve organizational performance. Recommended prereq: 2110.

4000 Public Policy Evaluation U 3

Students learn how to design and perform policy evaluations focused on policy processes and outcomes, using both qualitative and quantitative data. There is particular emphasis on the development of research designs and application of analytic methods for public policy evaluation.

Prereq: 3000, Stat 1350 or above, and Econ 2001.01, 2001.02, or 2001.03; or permission of instructor.

4010 Public Affairs Decision-Making U 3

Introduces students to research on decision-making and its practical application in the public and non-profit sectors. Draws on interdisciplinary scholarship that examines how people make decisions and considers the application of these insights in the design of public policy and the management of public and non-profit organizations.

Prereq: 3000.

4011 Public Affairs Capstone U 3

A capstone course for public affairs majors that focuses on the integration and application of public affairs knowledge and skills, as well as the transition from undergraduate study. Students complete an applied analysis or research paper on a policy or management topic of interest to them.

Prereq: 3000.

4020 Public Affairs Decision-Making: Washington DC U 3

Capstone course designed to integrate knowledge of how analysts and managers in the public sector can make decisions and pursue strategies to achieve important public goals, identifying places where positive progress can be effectuated.

Prereq: Jr standing or permission of Associate Director of Academic Studies. Concur: 4191 and 4021. Not open to students with credit for 4010 (678.01), 678.02 or 4011 (679.01).

4021 Policy Analysis Application: Washington DC U 3

Capstone course to write an analytic policy research paper that examines an important policy or management challenge in the public sector.

Prereq: Jr standing or permission of Associate Director of Academic Studies. Concur: 4020 and 4191. Not open to students with credit for 4011 (679.01) or 679.02.

4030 Public Budgeting U 3

Provides a high-level understanding of budgeting processes at all levels of government and in the nonprofit sector, as well as the fundamentals of public budgeting from the perspective of a practitioner. Reviews basic methods for public sector budgeting and analysis.

Prereq: Econ 2001.01, 2001.02, or 2001.03.

4060 Senior Leadership Seminar U 3

Students integrate multidisciplinary theoretical and practical approaches of leadership development and civic engagement to reflect on how leadership is defined, how it changes, and how individuals and groups can apply experience in college to civic minded engagement and change after graduation.

Prereq: Sr standing.

4110 Higher Education and Workforce Policy U 3

This course provides an overview of higher education and workforce training, and examines the role of government in the strategic planning, funding, and monitoring of education after compulsory schooling. The class will address both the systems in the United States, as well as workforce and higher education in developing and other developed countries.

4191.01 Public Affairs Internship U 1 - 3

Internship with a public, non-profit or similar organization in which students learn about sector combined with academic research component relevant to internship area.

Prereq: Students must have internship approved by John Glenn College prior to registering. Students may not receive credit for an internship already completed. Prior approval required. Repeatable to a maximum of 6 cr hrs or 2 completions.

4191.02 Student Internship in Public Affairs: Washington DC U 3

Washington D.C. Academic Internship Program offered through the John Glenn School of Public Affairs. Students from any discipline at the university may apply. Interns explore public policy issues and link experience to theoretical foundations. Students must be accepted to program in order to participate.

Concur: 4011 and 4021. Not open to students with credit for 589. Repeatable to a maximum of 9 cr hrs or 3 completions.

4310 State and Local Government Finance U 3

Financing public services by state/local governments. The fiscal relationship between state/local governments and the federal government. Apply techniques of economic analysis to policy issues.

Prereq: Econ 2001.01, 2001.02, or 2001.03. Cross-listed in Econ.

4510 Law and Public Affairs U 3

Introduces students to the legal environment within which public employees and administrators operate, emphasizing the work of the judiciary, and providing a legal basis for the study of public affairs, with a focus on how the courts engage in the policy making process.

4535 International Economic Development U 3

Study of the growth and diversification of developing economies and the causes of poverty and inequality. Analyze the impacts of human capital formation, markets, and public policy on development.

Prereq: AEDEcon 2001 (200) or Econ 2001 (200). Not open to students with credit for AEDEcon 435 or AEDEcon 535, or IntStd 4535 (535). Cross-listed in AEDEcon and IntStd.

4600 Ohio Public Safety Leadership Program U 10

10-week intensive course designed specifically for Ohio's Public Safety Officers to develop and refine leadership and management skills. Participants must be approved by Ohio State Highway Patrol selection process. Must have prior acceptance through Ohio State Highway Patrol selection process in order to enroll.

Prereq: Permission of unit. Repeatable to a maximum of 20 cr hrs.

4998 Undergraduate Research U 1 - 12

Individually supervised undergraduate research and project work in Public Affairs. Prereq: Jr or Sr standing, and permission of the Associate Director of Academic Affairs and instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.

4999.01H Honors Undergraduate Thesis U 1 - 3

Honors Thesis in various topics related to Public Policy. Requires an Honors Thesis.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is progress graded.

4999.02H Honors Undergraduate Thesis II U 1 - 3

Honors Thesis in various topics related to Public Policy. Requires an Honors Thesis.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is progress graded.

5030 Local Government U G 3

Designed to provide a basic introduction to local governments and their relationship to state government. The course will cover organization, structure, responsibilities, management, and financing of local governments.

5059 Leadership Self-Development U G 1

Increasing self-awareness and being open to feedback are critical to becoming a more effective leader. Students deepen their self-awareness and develop strategies and actions for improving leadership and management competencies. This two week intensive course is designed for mid-career professionals in public and nonprofit organizations. Participants must be able to attend both 6.5-hour class sessions.

Prereq: Acceptance into the Leadership and Management Certificate Program.

5060 Managing People in Public and Nonprofit Organizations U G 2

This course is designed to enhance students' management and leadership skills, preparing them to diagnose and solve organizational problems, to influence the actions of other individuals, groups, and organizations, and to manage high-performing, successful public and nonprofit service organizations.

Prereq: 5059, and acceptance into the Public and Nonprofit Leadership and Management certificate program.

5061 Leading People in Public and Nonprofit Organizations U G 2

The course will prepare students to appropriately design, coach, develop, and lead teams in times of stability as well as change, and to do so ethically in order to lead high-performing, successful public and nonprofit service organizations.

Prereq: 5060, and acceptance into the Public and Nonprofit Leadership Certificate program.

5062 Public Leadership Application U G 1

PA 5062 is designed to hone and demonstrate students' accumulated leadership knowledge and skills through an intervention exercise. Students will be asked to identify an opportunity within a public or nonprofit organization to integrate and apply leadership concepts, diagnose, analyze and solve an organizational problem, and to explore personal styles of leadership. 2, 6.5-hour class meetings.

Prereq: 5059, 5060, and 5061, and acceptance into the Public Leadership and Management Certificate program.

5100 Contextual Awareness for Leaders In Public Organizations U G 3

Cultivates contextual awareness for public officials and the societal environment in which they operate. Effective and inspiring leadership is developed in this course through experiential learning of how one is perceived and how perceptions of others can be managed. Develops awareness of heuristics and biases that may play a role in assessing situations in work and organizational environment.

Prereq: Must be accepted to the Ohio Public Servants Leadership Academy (OPSLA). Not open to those with credit for 4600.

5101 Organizational Culture and Ethics into Practice U G 3

Intensive course on organizational culture, types of organizations and how structures influence various cultures (family, workplace, school, country, church); and the relation between organizational and individual ethics.

Prereq: Acceptance into the Ohio Public Safety Leadership Academy (OPSLA). Coreq: 5102. Not open to students with credit for 4600.

5102 Organizational Theory into Practice U G 4

Investigates various types of organizations, interagency relations, intergovernmental relations, program evaluation, budgeting and finance, data management, policy making, leadership theory and styles and the relation between type of organization and its functioning.

Prereq: Admission to the Ohio Public Safety Leadership Academy (OPSLA). Coreq: 5100 and 5101. Not open to students with credit for 4600

5193 Individual Study U G 1 - 6

Individual Studies in Public Affairs.

Prereq: Jr standing and permission of Associate Director of Academic Affairs and Research. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

5194 Group Studies U G 1 - 6

Designed to give groups of students an opportunity to pursue special studies in topics not otherwise offered.

Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.

5240 Race and Public Policy in the United States U G 3

This course explores race and public policy in the United States from Reconstruction to the present. In particular, the class is designed to look at the long history of hot topics in the current policy landscape, including policing, housing, wealth gap, immigration, voting, political representation, and others.

Prereq: Jr, Sr, or Grad standing; or permission of instructor. Not open to students with credit for AfAmAST 5240. Cross-listed in AfAmAST.

5400 Planning for Housing U G 3

Housing - including its uses, meaning, design, and role. The creation of a range of housing to support growth and revitalization of cities and regions.

Prereq: Not open to students with credit for CRPlan 320, 752, or 5400. Cross-listed in CRPlan.

5590 Fundraising and Philanthropy for Nonprofit Organizations U G 3

Designed for students interested in careers and/or volunteer roles in nonprofit administration and current professionals in this area: basic skills, theories, and applied methods of generating funding and creating development plans.

Prereq: Not open to students with credit for 880.06.

5591 Lobbying and Government Relations U G 3

Designed to provide an introduction to lobbying government affairs and at the local, state and federal levels of government.

Prereq: Not open to students with credit for 880.06.

5592 Marketing for Nonprofit and Public Organizations U G 3

Examines marketing principles of mission-driven organizations, specifically nonprofits and government agencies. It will provide students with an introduction to marketing theory, and will equip them with practical experience in developing a strategic marketing plan that addresses challenges unique to nonprofit and public sector marketers. 7553 is a recommended prerequisite for Grad students.

Prereq: 3140 for undergraduate students.

5600 Science, Engineering, and Public Policy U G 3

Presents the history of the interactions between science, engineering, and public policy in the United States and in the context of global concerns (e.g. climate change, competitiveness), inquires into how various federal government, universities, & corporations conduct & fund science and engineering & explore how public sector interests & processes influence sci, engr & public policy.

Prereq: Jr, Sr, or Grad standing; or permission of instructor. Cross-listed in EnvEng.

5610 Innovation, Policy, and the Global Economy U G 3

This course examines frameworks and theories of public administration, governance, and policy for science and engineering at the international level. It will critique existing theories of global knowledge development and transfer, governance, and trade through the lens of science and engineering.

Prereq: Jr, Sr or Grad Standing.

5700 Rebuilding Failed and Weak States U G 3

Tackles the question of how to design policies and programs to rebuild failed and weak states into functioning, if not vibrant, democracies.

Prereq: Soph standing or higher or permission of instructor. Not open to students with credit for 670 or IntStds 5700 (670). Cross-listed in IntStds.

5750 Public Policy: The Business-Government Relationship U G 3

Business tools and strategy for influencing government; evolution and direction of public policy toward business.

Prereq: Sr standing and permission of the Associate Director of Academic Affairs and Research. Not open to students with credit for 795.

5750H Public Policy: The Business-Government Relationship - Honors U G 3

Business tools and strategy for influencing government; evolution and direction of public policy toward business.

Prereq: Honors and Jr standing or higher, or permission of John Glenn School of Public Affairs. Not open to students with credit for 797H.

5770 Risk & Decision Analysis in Public Affairs U G 3

This course provides a comprehensive assessment of theories and tools for decision-making in the face of risk and uncertainty, giving a rigorous treatment of current issues and approaches in risk analysis through both qualitative and quantitative lenses.

5800 Special Topics Seminar in Public Affairs U G 3

Designed to give students an opportunity to pursue special studies in topics not otherwise offered.

Prereq: Jr standing or above or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5881 Interdepartmental Seminar U G 1 - 3

Two or more departments may collaborate in presenting seminars in subjects of mutual interest; topics to be announced.

Repeatable to a maximum of 15 cr hrs or 5 completions.

5890 US Food Policy U G 3

An examination of national food affairs and policy at the federal level. Attention will focus on contemporary policy issues including food insecurity, health claims, obesity, novel crops, ingredients and processing techniques, sustainability, corporate consolidation, and food advertising; as well as how these issues impact the choices of federal institutions.

5900 Food System Planning and the Economy U G 3

Examines the social, environmental and economic costs and benefits of our food production, distribution, and consumption.

Prereq: Not open to students with credit for AEDEcon 5900 or CRPlan 5900. Cross-listed in AEDEcon and CRPlan.

6000 Public Policy Formulation and Implementation G 4

Overview of the public policy process and the historical and contemporary context in which policy making and implementation are carried out in the United States at the federal, state and local levels.

Prereq: Not open to students with credit for 801.

6010 Legal Environment of Public Organizations G 4

Provides students an understanding of the legal foundations of public affairs. Students use legal reasoning to examine and analyze the constraints imposed on public policy making and program management and implementation by the legal environment.

Prereq: Not open to students with credit for 802.

6030 Public Sector Economics G 4

Economic analysis in the public sector. Application of economic analytical techniques to identify and frame public policy problems; analysis of policy solution trade-offs; efficiency; market failure; public choice.

Prereq: Econ 2001, or equiv., or permission of instructor.

6040 Public Budgeting and Finance G 4

Survey/analysis of governmental fiscal activities; taxation principles, intergovernmental relations, fiscal problems; public sector budgeting; budgets as mechanism for planning/allocating/controlling resources; tools for program and results evaluation.

Prereq: 6030 or PubHHMP 7602 (CoPH students only); or permission of instructor.

6050 Managing Public Sector Organizations G 4

Learn to manage public sector organizations with a focus on the external environment: context of public sector organizations, their structure, how they operate; managing organizational performance, innovation, and change.

Prereq: Not open to students with credit for 810.

6060 Managerial Leadership in Public and Nonprofit Organizations G 4

Managerial Leadership in Public and Nonprofit Organizations with focus on internal operations, processes, and resources; human resource management, information technology; other aspects of internal capacity.

6070 Public Affairs Statistics G 4

Provides students with analytical knowledge and tools necessary to acquire, manage and analyze data. Students learn probability and statistics to conduct analysis and evaluation and evaluate the quality of analyses conducted by others.

Prereq: Not open to students with credit for both 820 and 822.

6080 Public Affairs Program Evaluation G 4

Equips students with knowledge and skills to evaluate public policies and programs. Students learn about different types of evaluations and research designs for conducting evaluations. Exposure to ethical considerations in conducting evaluations.

Prereq: 6070, 6070.01, or 6070.02.

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6193 Individual Studies	G	1 - 6	7505 Wicked Policy Problems	G	3
Master's level individual studies in public affairs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.			Elective course examines "wicked" policy problems, or policy problems that require attention to multiple causal factors (e.g. economic, financial, political, social, cultural, technological).		
6194 Group Studies	G	1 - 6	7506 Workforce Planning and Policy	G	3
Designed to give groups of students an opportunity to pursue special studies in topics not otherwise offered. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.			Review of national level workforce systems; examination of technical aspects of workforce planning in nat'l and state policy contexts; planning governmental investments in education and workforce infrastructure using actual govt agency data.		
6460 Real Estate Finance for Planners	G	3	7507 Criminal Justice Policy	G	3
Realize plans by understanding the financial mechanisms to fund projects. Explore how public-private partnerships create opportunities for affordable housing, downtown revitalization, and neighborhood improvement. Prereq: Grad standing or permission of instructor. Not open to students who have taken CRPlan 6460. Cross-listed in CRPlan.			Overview of criminal justice system with focus on structural, organizational, and micro-level aspects of the criminal justice policy process; study of key systemic as well as current policy issues and fiscal impacts of policies. Prereq: Not open to students with credit for 840.		
6500 Public Affairs Skills: Written and Oral Communication	G	2	7509 Disasters: Preparedness and Response	G	3
Being an effective communicator can determine the reach and impact of policy, as well as the ability of a public manager to influence change. Course information includes becoming a better writer and speaker on a topic of public policy - including communicating to diverse audiences with differing information demands. Prereq: Not open to students with credit for 809. Repeatable to a maximum of 4 cr hrs.			Introduction to planning, policy and management issues that arise when disaster strikes, and the roles of government, non-profits, communities and individuals in emergency preparedness by examining a variety of recent natural and human-made disasters, both in the U.S. and abroad. Cross-listed in CRPlan.		
6505 Public Affairs Skills: Governmental Accounting	G	1	7525 Policy and Strategy in the Nonprofit Sector	G	3
Explores governmental accounting and financial reporting. Topics include long term financing and state and local government financial condition analysis. Prereq: Not open to students with credit for 852.			Provides students with a broad overview of the nonprofit sector, exploring historical and legal foundations, the environmental context (and related opportunities and threats), and critical issues for particular nonprofit subsectors. Prereq: Not open to students with credit for 880.06.		
6510 Conveying Quantitative Data in Public Affairs	G	1	7531 Economic Development Policy	G	3
Provides students with an understanding of how to convey complex information visually using software tools so as to facilitate, frame and inform debates around issues in public policy and public finance. Prereq: Grad standing or permission of instructor.			Takes a practical approach to the legal, policy and business issues related to urban redevelopment. Gain a legal perspective as they investigate business and public policy issues surrounding redevelopment in our urban core. Prereq: Not open to students with credit for CRPlan 7531. Cross-listed in CRPlan.		
6513 Excel Basic Skills	G	1	7533 Nonprofit Financial Management	G	3
This first of two Excel courses focuses on how to use Microsoft Excel from basic data entry, formatting, filtering and sorting, basic functions and formulas, basic nest formulas, and basic charts and graphs. A variety of techniques and data management concepts are presented and discussed. Real world examples are used to provide context.			Focuses on financial management in nonprofit organizations which may rely primarily on donor support through pledges, grants and endowments or on revenues generated through the provision of services.		
6514 Excel Advanced Skills	G	1	7534 Privatization	G	3
Excel Advanced Skills focuses on how to use intermediate to advanced Microsoft Excel functionality from nested formulas to data analysis through the use of pivot tables and creating interactive worksheets. A variety of techniques and data management concepts are presented and discussed. Real world examples are used to provide context. Excel Basic class not required but recommended for beginners.			Examines the theory and current practice of privatization against the backdrop of public policy and public administration. Prereq: Not open to students with credit for 880.07.		
6515 Database Management	G	1	7535 Regulation and Deregulation	G	3
Addresses the efficient and effective use of the database environment as a resource for the support of decision making at tactical, strategic and policy levels within the public sector. Prereq: Grad standing or permission of instructor. Not open to students with credit for 821.			Examine the strengths and limitations of economic and social regulation, the occasion for and evolution of their policy development, and the prospects for regulation, deregulation, and re-regulation in the U.S. economy. Prereq: Not open to students with credit for 880.05.		
6520 Balanced Scorecards and Dashboards	G	1	7550 Contract Management	G	3
Skills course that covers the development and display of performance information for decision making. Prereq: Grad standing or permission of instructor.			Provides students with a perspective on the need and methods for managing contract relationships and outsourced services in the public-sector. Prereq: Not open to students with credit for 880.05.		
6525 Survey Design in Public Affairs	G	1	7551 Dispute Resolution	G	3
Surveys key concepts and methods of survey design and implementation for public program evaluation and public policy analysis. Prereq: Grad standing or permission of instructor.			Introduces students to the field of Alternative or Appropriate Dispute Resolution (ADR) and specifically the use of ADR in managing and resolving public policy disputes. Prereq: Not open to students with credit for 880.06 or CRPlan 7500 (750). Cross-listed in CRPlan 7500 (750).		
6890 Special Topics: Skills in Public Affairs	G	1	7553 Nonprofit Management and Governance	G	3
Contains special topics exclusively appropriate to the "Skills" portion of the Glenn School Masters curriculum. Prior to scheduling, a syllabus with learning objectives, topics, and a rationale will be agreed upon by the faculty. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 8 cr hrs.			Advanced survey course on nonprofit management and governance, with a concentrated focus on evaluating and managing nonprofit capacity to achieve organizational performance and system impact. Prereq: Not open to students with credit for 880.06.		
7194 Group Studies	G	1 - 4	7554 Performance Measurement and Management in the Public Sector	G	3
Designed to give groups of students the opportunity to pursue special advanced studies in topics not otherwise offered. Repeatable to a maximum of 16 cr hrs or 4 completions.			Provides students with an understanding of performance measurement and management principles to create useful performance information, to use data to manage operations, to develop more effective employees and to make financial decisions. Prereq: Not open to students with credit for 880.05.		
7501 Grant Writing in the Public Sector	G	3	7555 Project Management	G	3
An introduction to the public sector process of grant writing including techniques and structure. Prereq: Not open to students with credit for 880.02 or CRPlan 6610 (837). Cross-listed in CRPlan 6610.			Introduction to international standards and methods for project management (PM); the application of tools, the basic, ancillary, and "soft" skills for successful PM; public sector challenges; and strengths/limitations in a complex organic environment. Prereq: Not open to students with credit for 880.05 or CRPlan 6620 (880). Cross-listed in CRPlan 6620.		
7503 Higher Education Policy for Public Leaders	G	3	7570 Public Management Information Systems	G	3
Provides an introduction to education policy for public sector leaders. Topics include Higher Education economic foundations, budget processes, current policies, and international education and practice. Prereq: Not open to students with credit for 880.06.			Critical study of the design and administration of management information systems for the public and nonprofit sectors. Prereq: Not open to students with credit for 821.		

7571 Multivariate Regression Analysis	G	3
An applied course in regression analysis in which students use multiple regression to make predictions and test hypotheses to help inform policy analysis.		
Prereq: 6070 or equiv. Grad level introductory statistics course.		
7572 Policy Simulation and Modeling	G	3
Introduction to the development of conceptual and data models for public policy analysis including hands-on experience with using simulations tools for agent-based and system dynamics modeling.		
Prereq: 6080 (804) or permission of instructor.		
7573 Public Affairs Methods	G	3
Explores quantitative and/or qualitative decision-making methods specific to public affairs context using statistics, economics, public budgeting, finance, policy, and modeling theories.		
Prereq: 6070, or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
7900 Capstone: Research Paper in Public Affairs	G	3
Students integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth policy or management analysis of a defined topic or a specific organization.		
Prereq: 6000 (801), 6070 (820 & 822), 6080 (804); or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
7910 Capstone: Public Policy Issues	G	3
Students integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth Public Policy analysis of a defined topic or a specific organization.		
Prereq: 6000 (801), 6010 (802), 6070 (820 & 822), 6080 (804); or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
7920 Capstone: Public Economics	G	3
Students integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth Public Economics analysis of a defined topic or a specific organization.		
Prereq: 6000 (801), 6070 (820 & 822), 6080 (804), 6030 (830), 6040 (730 & 834); or permission of instructor.		
7930 Capstone: Public Budgeting and Finance	G	3
Students integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth Public Budgeting and Finance analysis of a defined topic or a specific organization.		
Prereq: 6000 (801), 6070 (820 & 822), 6080 (804), 6030 (830), 6040 (730 & 834); or permission of instructor.		
7940 Capstone: Public Management	G	3
Students integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth Public Management analysis of a defined topic or a specific organization.		
Prereq: 6000 (801), 6050 (810), 6060 (811), 6070 (820 & 822), 6080 (804); or permission of instructor.		
7950 Capstone: Nonprofit Topics	G	3
Integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth Nonprofit analysis of a defined topic or a specific organization.		
Prereq: 6000, 6070, and 6080; or permission of instructor.		
7960 Capstone: Information Management	G	3
Integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth Information Management analysis of a defined topic or a specific organization.		
Prereq: 6000 (801), 6050 (810), 6070 (820 & 822), 6080 (804); or permission of instructor.		
7970 Capstone: Policy in an International Context	G	3
Students integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth International Context analysis of a defined topic or a specific organization.		
Prereq: Permission of instructor.		
8000 Public Policy and Management: Foundations and Approaches	G	3
In-depth introduction to research and theory of public administration intended to familiarize students with major research streams in the field and issues and debates involved therein. Assists students in planning research directions.		
Prereq: John Glenn School Doctoral students or permission of instructor. Not open to students with credit for 880.06.		
8030 Seminar in Public Policy	G	3
Designed to heighten graduate students' ability to think critically about public policy research. It emphasizes the critical assessment of public policy research on policy formulation, implementation, and evaluation.		
Prereq: John Glenn School Doctoral students or permission of instructor. Not open to students with credit for 880.06.		
8040 Seminar in Organizational Theory	G	3
Survey of the major perspectives in organizational theory and their application to public management.		
Prereq: Not open to students with credit for 880.06.		

8050 Seminar in Public Sector Economics	G	3
The applications of rational choice modeling to public policy analysis and organizational decision-making.		
Prereq: 6030 (830), or Econ 4001 (501), or permission of instructor. Not open to students with credit for 880.02.		
8060 Seminar in Public Management	G	3
Provides an in-depth introduction to research and theory about public management. It is one of a two-course sequence in the John Glenn School of Public Affairs focusing on public management and organizations.		
Prereq: Not open to students with credit for PubPolM 880.06.		
8193 Individual Studies	G	1 - 12
Advanced individual studies in public affairs.		
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.		
8194 Group Studies	G	1 - 4
Designed to give groups of students the opportunity to pursue special advanced studies in topics not otherwise offered.		
Repeatable to a maximum of 16 cr hrs or 4 completions.		
8780 Logic of Policy Inquiry	G	3
Explore research paradigms to determine how they suit one's values, research interests and objectives. Determine object of study, approaches and language used to acquire/disseminate knowledge.		
Prereq: Not open to students with credit for 890.		
8782 Seminar in Policy Modeling	G	3
Analyzes conceptual frameworks underlying scholarly products to help students plan a doctoral dissertation or a paper publishable in an academic journal.		
Prereq: Not open to students with credit for 880.05.		
8890.01 First Year Doctoral Seminar I	G	1
First in a sequential series of three, develops skills and capacities for first-year Glenn School doctoral students to succeed and thrive as scholars.		
Prereq: Not open to students with credit for 880.06.		
8890.02 First Year Doctoral Seminar II	G	1
Second in a series of three, develops skills and capacities for first-year Glenn School doctoral students to succeed and thrive as scholars.		
Prereq: 8890.01 or permission of instructor. Not open to students with credit for 880.06.		
8890.03 Second Year Doctoral Seminar	G	1
Last of three in a sequential series, develops skills and capacities for second-year Glenn School doctoral students to advance in the field as scholars and prepare for academic and non-academic careers.		
Prereq: 8890.01 and 8890.02, or permission of instructor. Not open to students with credit for 880.06.		
8890.04 College Teaching in Public Affairs	G	2
This interactive seminar assists advanced graduate students developing the necessary skills for college level teaching in public affairs: pedagogical strategies; theoretical and interdisciplinary practices; instructor professional development.		
Prereq: Grad standing, and permission of instructor.		
8998 Graduate Research Non-Dissertation	G	1 - 8
This course is designed to provide reading and research hours for students preparing for candidacy exams.		
Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions.		
8999 Research in Public Affairs: Dissertation	G	1 - 12
Research for dissertation purposes only.		
Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.		

Public Health

1100 Survey of Public Health	U	1
An introduction to the University community; strategies for successful transition to and participation in that community; information about University resources and procedures; and (4) information about the College of Public Health and its programs.		
2010 Introduction to Global Public Health		
Public health concepts examining the philosophy, purpose, history, organization, functions, and results of public health practices domestically and internationally. Presents the pressing global public health concerns of the 21st century.		
Prereq: Not open to students with credit for 400. GE soc sci indivs and groups and diversity global studies course.		
3180 Undergraduate Capstone Preparation	U	1
The purpose of the class is to prepare undergraduate students in Public Health for their Capstone Experience. Students will learn the critical elements of Public Health Practice and Research as well as professional development skills to prepare them for the workplace and equip them with the tools needed to apply for graduate school.		
Prereq: Jr standing in BSPH, or Soph standing for students who intend to complete an Honors Research Thesis. This course is graded S/U.		

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3180E Undergraduate Capstone Preparation	U 1		
Prepares undergraduate students in Public Health for their Capstone Experience. Students will learn the critical elements of Public Health Practice and Research as well as professional development skills to prepare them for the workplace and equip them with the tools needed to apply for graduate school.			
Prereq: Jr standing in BSPH, or Soph standing for students who intend to complete an Honors Research Thesis. This course is graded S/U.			
3189.01 Field Experience in Global Public Health: India	U 3		
Global public health concepts and associated metrics; role of cultural, social, economic, and environmental factors on public health in India; instructions in a classroom setting on an Indian campus and through field trips.			
Prereq: English 1110 (110), good academic standing, and completion of minimum 4 semesters (2 academic years) of undergraduate education.			
3189.02 Field Experience in Global Public Health: China	U 3		
Global public health concepts and associated metrics; role of cultural, social, economic, and environmental factors on public health in China; instructions in a classroom setting on a Chinese campus and through field trips.			
Prereq: Major or minor in PubHlth or in health/biology-related areas; or permission of instructor.			
3189.02E Field Experience in Global Public Health: China	U 3		
Global public health concepts and associated metrics; role of cultural, social, economic, and environmental factors on public health in China; instructions in a classroom setting on a Chinese campus and through field trips.			
Prereq: Major or minor in Public Health or in health/biology-related areas, or permission of instructor.			
3189.03 Field Experience in Global Public Health: Japan	U 3		
Global public health concepts and associated metrics; role of cultural, social, economic, and environmental factors on public health in Japan; instructions in a classroom setting on a Japanese campus and through field trips.			
Prereq: English 1110 (110), and good academic standing, and completion of minimum 4 semesters (2 academic years) of undergraduate education.			
3189.03E Field Experience in Global Public Health: Japan	U 3		
Global public health concepts and associated metrics; role of cultural, social, economic, and environmental factors on public health in Japan; instructions in a classroom setting on a Japanese campus and through field trips.			
Prereq: English 1110 (110), and good academic standing, and completion of minimum 4 semesters (2 academic years) of undergraduate education.			
3189.04 Field Experience in Global Public Health: Finland and Estonia	U 3		
Global public health concepts and associated metrics; role of cultural, social, economic, and environmental factors on public health in Finland and Estonia; instructions in a classroom setting and through field trips.			
Cross-listed in PubHlth 3189.04.			
3189.04E Field Experience in Global Public Health: Finland and Estonia	U 3		
Global public health & associated metrics, role of cultural, social, economic, and environmental factors on public health in Finland and Estonia.			
Cross-listed in PubHlth 3189.04.			
3191 Undergraduate Internship in Public Health	U 2		
Placement of BSPH students in a public health agency or related site for supervised practice experience.			
Prereq: Jr or Sr standing, enrollment in BS Public Health major, and permission of advisor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.			
3191E Undergraduate Internship in Public Health	U 2		
Placement of BSPH students in a public health agency or related site for supervised practice experience.			
Prereq: 3180 or 3180E, Sr standing, enrollment in BS PubHlth major, and permission of advisor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
3193 Individual Studies in Public Health	U 1 - 3		
Individual study in a public health topic approved by and under the guidance of a faculty advisor.			
Prereq: Permission of a faculty advisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.			
3550 Special Topics in Public Health	U 1 - 6		
Regular class on topics that are relevant to students enrolled in programs in the College of Public Health undergraduate program.			
Prereq: Enrollment as a Public Health major or pre-major, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.			
3999 Undergraduate Capstone Research in Public Health	U 2		
The goal of the Undergraduate Public Health Research Experience Capstone is to provide Public Health students with opportunities to apply public health principles outside of a typical classroom setting and build on public health coursework. This course allows students the opportunity to integrate classroom experiences and principles in an applied research setting. Prereq: 3180. This course is graded S/U.			
4998 Undergraduate Research in Public Health	U 1 - 6		
Undergraduate research under the guidance of a faculty mentor in a basic or applied area of public health.			
Prereq: Jr or Sr standing, and Enrollment in BS PuHlth major, and permission of advisor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
4999 Undergraduate Research Thesis	U 3 - 6		
Conducting a research project and writing a thesis is a Capstone Option for undergraduate Public Health majors. It allows the student a significant opportunity to apply skills learned in the classroom to an applied research project. This is done under the supervision of a faculty advisor.			
Prereq: A cumulative GPA of 3.0 or higher, and PUBHLTH-BS major, and approval of research proposal by undergraduate research committee, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
4999.01H Senior Honors Thesis	U 1 - 3		
An independent senior thesis course with faculty advisor; subject matter will vary depending upon student's topic. At least two semesters are required for the BSPH degree with research distinction. Failure to receive a mark of S in this course is a disqualification for special honors.			
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			
5760 Public Health Informatics	U G 3		
Introduction to the emerging and interdisciplinary field of Public Health Informatics. This course will highlight the history, current and future use of informatics in the public health settings, and give students an understanding of the role and broad application of informatics to promoting health and preventing disease.			
Cross-listed in BMI.			
6000 Introduction to Global Health	G 2		
Overview of current and emerging global health issues, their determinants, actions, and interventions.			
Prereq: Open to Grad students with registration priority for students enrolled in the Interdisciplinary Global Health specialization. Not open to students with credit for 600.			
6010 Essentials of Public Health	G 3		
An overview of the history and philosophy of public health, and the fundamental principles, concepts, and tools used in promoting the health of populations. The course is intended to orient students to the breadth of the field and introduce cross-specialization perspectives on major issues and problems in public health.			
Prereq: Enrollment in Master of Science in Public Health (PUBHLTH-MS) or Doctor of Philosophy in Public Health programs (PUBHLTH-PH), or permission of instructor.			
6189.01 Field Experience in Public Health	G 1 - 6		
Placement in a public health agency or related site for supervised practice experience.			
Prereq: Enrollment in public health degree program, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			
6189.02 Field Experience in Global Health	G 1 - 6		
Placement in a public health agency or related site for supervised international practice experience.			
Prereq: Enrollment in public health degree program, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			
7000 Public Health in Developing Countries	G 3		
Overview of core public health principles and practices applied to global health issues.			
Prereq: 6000; open to all Grad and professional students with registration priority for students enrolled in the graduate Interdisciplinary Global Health specialization. Not open to students with credit for 700.			
7040 Public Health Organization	G 3		
Review of the historical background leading to the evolution of public health with a focus on the contemporary practice of public health; a review of current policy and practice; and, an outlook for the future of public health.			
7189 Practicum in Public Health	G 1 - 6		
Placement in a public health agency or related site for supervised practice experience.			
Prereq: Enrollment in public health degree program, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			
7350.02 Topics in Applied Public Health Practice - Leadership	G 1 - 3		
Includes theory and applications relevant to specific rubrics of applied public health practice, with a theme of public health management and leadership.			
Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.			
7350.03 Topics in Applied Public Health Practice - Res Tools	G 1 - 3		
Includes theory and applications relevant to specific rubrics of applied public health practice, with a theme of public health research tools.			
Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.			

7996	Culminating Project Prep Seminar for MPH-PEP students	G	1
Course is designed for students to: complete their culminating project proposals, submit culminating project approval form, complete a basic human subject research course, submit application to the IRB and/or other review boards (if applicable), complete the beginning sections of their Culminating Project report, and develop a project management plan for implementation.			
Prereq: Permission of instructor. This course is graded S/U.			
7998	Culminating Project in Public Health	G	1 - 3
Final project for MPH degree that can be a research report, program evaluation or grant proposal. Students should see division specific requirements.			
Prereq: Enrollment in MPH degree program, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			
7999	Thesis Research in Public Health	G	1 - 12
Research for master's students: Thesis research.			
Prereq: Enrollment in MS degree program, and permission of instructor. Repeatable. This course is graded S/U.			
8802	Seminar for Graduate Interdisciplinary Specialization in Demography	G	3
Course required for students enrolled in the Graduate Interdisciplinary Specialization in Demography (GISD). Presents an introduction to demography (the study of populations) and population health.			
Prereq: Grad standing, or permission of instructor with approval by Graduate School for undergraduate credit. Repeatable to a maximum of 12 cr hrs. Cross-listed in Sociol.			
8998	Pre-Candidacy Research in Public Health	G	1 - 12
Independent research for doctoral students: pre-candidacy.			
Prereq: Enrollment in PhD program. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
8999	Post-Candidacy Research in Public Health	G	1 - 12
Independent research for doctoral students: post-candidacy.			
Prereq: Enrollment as PhD Candidate in Public Health Program. Repeatable. This course is graded S/U.			

Public Health: Biostatistics

2210	Biostatistics for Public Health Research	U	3
Hands-on experience using statistical tools to answer real-world questions. Students will design and implement a short survey and analyze their results. Emphasis on analysis of actual survey data using statistical software. Statistical topics include numerical/graphical summaries, measures of association, and hypothesis testing. Focus is on interpretation, not calculation.			
Prereq: Stat 1350 (135) or Stat 1450 (145), or equiv.			
2210H Honors Biostatistics for Public Health Research			
U	3		
Hands-on experience using statistical tools to answer real-world questions. Students will design and implement a short survey and analyze their results. Emphasis on analysis of actual survey data using statistical software. Statistical topics include numerical/graphical summaries, measures of association, and hypothesis testing. Focus is on interpretation, not calculation.			
Prereq: Honors standing, and Stat 1350 (135) or 1450 (145), or equiv; or permission of instructor.			
3193	Individual Studies in Biostatistics	U	1 - 6
Individual studies in Biostatistics focusing on applied topics.			
Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 6 completions. This course is graded S/U.			
5280	Introduction to Genomic Data Analysis	U G	2
Provides an in-depth analysis of a specific question to which genomic methods are applied. Intersperses experimental methods and statistical analysis of biological data. Some experience with programming is recommended.			
Prereq: Jr standing or above, and Math 1151 or 1156, Stat 2450 or 2480, and Biology 1113 or MolGen 5660; or Grad standing; or permission of instructor.			
6210	Design and Analysis of Studies in the Health Sciences I	G	3
Theory and application of basic statistical concepts for design of studies in health sciences, integrated with statistical software applications.			
Prereq: Grad standing in PubHlth, or enrollment in MS Pharmacology program, or permission of instructor. Not open to students with credit for 701.			
6211	Design and Analysis of Studies in the Health Sciences II	G	3
A second course in applied biostatistical methods with an emphasis on regression methods commonly used in the health sciences. The focus is on linear regression and ANOVA. Integrated with use of computer statistical packages.			
Prereq: A grade of B- or above in 6210 (701), or permission of instructor. Not open to students with credit for 702.			
6212	Regression Methods for the Health Sciences	G	3
Regression models for three problems: repeated measures data, logistic regression and time-to-event analysis. Hypothesis tests, evaluating assumptions, confounding, selection of predictors. Illustrated with real data sets and analysis assignments.			
Prereq: A grade of B- or above in 6211 (702), or in both Stat 6410/6910 (641) and 6450/6950 (645), or permission of instructor. Not open to students with credit for 703.			
6270	Introduction to SAS for Public Health Students	G	2
Introduction to programming using SAS software to accomplish public health data management and analysis.			
Prereq: Grad standing in PubHlth, or permission of instructor. Not open to students with credit for 604, Stat 5740, or 6740.			
7193	Individual Studies in Biostatistics	G	1 - 6
Independent study in Biostatistics.			
Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 6 completions. This course is graded S/U.			
7194	Group Studies in Biostatistics	G	1 - 3
Group studies in biostatistical methods. Format will include lectures, readings, presentations and discussions in an area of special interest to students and faculty.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.			
7215	Design and Analysis of Clinical Trials	G	2
Design, monitoring, and analysis of clinical trials; includes protocol development, randomization schemes, sample size methods, and ethical issues.			
Prereq: Stat 5301, or PubHlBio 6210, or equiv; or permission of instructor. Not open to students with credit for Stat 6615 (BioStat 615). Cross-listed in Stat 6615.			
7220	Applied Logistic Regression	G	3
Theoretical and practical training in statistical modeling of a categorical response variable; conditional and unconditional models, assessment of model performance, determination of scale.			
Prereq: A grade of B- or above in 6211 (702.xx). Not open to students with credit for 606.			
7225	Survey Sampling Methods	G	3
Sampling from finite populations, simple random, stratified, systematic and cluster sampling design, ratio and regression estimates, non-sampling errors, models.			
Prereq: 6211 (703) or Stat 5301 (529), or equiv. Not open to students with credit for Stat 6510 (651). Cross-listed in Stat 6510.			
7230	Applied Longitudinal Data Analysis	G	3
Statistical models and methods for the analysis of data arising from longitudinal studies with repeated measurements on subjects over time.			
Prereq: 6211, Stat 6450, or 6950. Not open to students with credit for 624.			
7235	Applied Survival Analysis	G	3
Introduction to time-to-event data analysis. Topics include summary statistics, non-parametric methods, semiparametric and parametric models, and competing risks analysis. Focus is on analysis of health data using statistical software.			
Prereq: 6211, Stat 6450, or 6950. Not open to students with credit for Stat 6605 (BioStat 605). Cross-listed in Stat 6605 (BioStat 605).			
7240	Applied Statistical Analysis with Missing Data	G	3
Models and methods for the dataset with missing values, including imputation, likelihood-based, and Bayesian models.			
Prereq: 6211 (703), or Stat 6201, or 6802 (622), or 6302, or 6450, or 6950, or permission of instructor. Not open to students with credit for Stat 6520 (652). Cross-listed in Stat 6520.			
7245	Biostatistical Collaboration	G	2
Basic biomedical research methodologies; collaborate with biomedical researchers to design experiments and plan analyses; protocol preparation; professional skills development; statistical report preparation.			
Prereq: Grad standing and permission of instructor; sufficient coursework in Stat or BioStat to serve as a biostatistical consultant. Not open to students with credit for Stat 7755 (BioStat 709). Cross-listed in Stat 7755 (BioStat 709). This course is graded S/U.			
7250	Special Topics	G	1 - 6
Regular class on special topics in biostatistics. Format will include lectures, readings, presentations and discussions in an area of special interest to students and faculty.			
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.			
7255	Introduction to Causal Inference in Health Science Research	G	3
This is an introduction course to the commonly used statistical methods for causal inference. The course starts with potential outcome framework as the conceptual foundation for inferring causality.			
Prereq: B- or higher in 6211, or permission of instructor.			
7899	Seminar in Biostatistics	G	1 - 3
Seminar on topics that are relevant to students enrolled in programs in the Division of Biostatistics.			
Prereq: Grad standing in PubHlth, and permission of instructor. Repeatable. This course is graded S/U.			
8230	Advanced Longitudinal Data Analysis	G	3
Classical and modern statistical approaches for continuous and discrete longitudinal data. Random effects and growth curve models, measurement error, generalized estimating equations, estimation with missing data, multivariate longitudinal data.			
Prereq: Stat 6802 (622) and 6950 (645). Not open to students with credit for Stat 7470 (726). Cross-listed in Stat 7470 (726).			

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8235 Advanced Regression Modeling of Time-to-Event Data G 3
Advanced topics in survival analysis. Proportional hazards models, parametric regression models, length-bias and prevalent sampling, multivariate survival analysis, counting processes, recurrent events.
Prereq: Stat 6802 (622) and 6950. Not open to students with credit for 706 or Stat 7605. Cross-listed in Stat 7605.

8450 Stochastic Epidemic Models G 3
Introduces the basic methods for analyzing large population epidemic data from the viewpoint of the stochastic processes theory. The course will cover the basic SIR (susceptible-infective-removed) epidemic models both under the homogenous and restricted contact structures.
Prereq: Stat 6801, and 6540 or 7540; or permission of instructor. Cross-listed in Stat.

8899 Doctoral Seminar G 1 - 3
Seminar for doctoral students in Biostatistics.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

Public Health: Environmental Health Sciences

3193 Individual Studies in Environmental Health Sciences U 1 - 6
Individual Studies in Environmental Health Sciences.
Prereq: Permission of instructor. This course is graded S/U.

3310 Current Issues in Global Environmental Health U 3
Fundamental concepts and principles of environmental health are presented through a critical review and discussion of current issues in global environmental health.

3320 Fundamentals of Environmental Health Risk Assessment U 3

The scientific process used by governmental agencies to evaluate public health threats due to environmental contamination. An orientation to the fundamental and applied components of risk assessment including: hazard identification, toxicology/dose-

4530 Food Safety and Public Health U 2
Principles and practice of food safety; transmission, inactivation and control of foodborne pathogens, hazards, toxins and allergens; risk assessment, sanitation, and pest control in foods.
Cross-listed in FdScTe 4536.

5315 Principles of Toxicology U G 3
Fundamentals of dose-response, exposure, disposition and biotransformation of chemicals in mammalian systems; actions of toxicants in major organ systems.
Prereq: Not open to students with credit for 732.

5320 Climate Change and Human Health U G 3
Recognize current controversies about climate change, summarize the evidence about climate change on human health, and identify major human diseases associated with climate change.
Prereq: Not open to students with credit for 794.

5325 Principles of Occupational Health Science U G 3
Principles and practice of occupational health, including, among other topics, a history of the discipline and in-depth consideration of occupational hazards and risks, including types, sources, exposures and health impacts.
Prereq: Not open to students with credit for 830.

5395 Engineering Design for Environmental Health U G 3
Students in this course will learn how to incorporate health information into the engineering design process. This material complements risk assessment by focusing on the design of engineering systems. We will discuss balancing financial, health, performance, & other considerations. Quantitative analysis will be conducted in soil, water, air, buildings, and occupational health scenarios.
Prereq: Math 1151 or 1161.01 or 1161.02 or equiv., and Chem 1210 or 1250 or equiv., and enrollment in CivilEn or EnvEng or PubHlth-BS with a specialization in Environmental Public Health; or Grad standing; or permission of instructor. Cross-listed in EnvEng 5195.

6300 Environmental Health Science Issues in Health Administration G 1½
In this course, we will consider environmental health sciences as a cornerstone to public health.
Prereq: Enrollment in HSMP-MHA, or permission of instructor.

6305 Principles of Environmental Health for Professionals G 3
Survey of environmental influences on human health and strategies for prevention.
Prereq: Enrollment in MPH program.

6310 Principles of Environmental Health Science G 3
Survey of environmental influences on human health and strategies for prevention considering source emissions, environmental fate and transport, human exposure, dose, and biological effects.
Prereq: Not open to students with credit for 731.

6315 Advanced Environmental Health Science G 3
Survey of environmental influences on human health and strategies for prevention considering source emissions, environmental fate and transport, human exposure, dose, biological effects, and ultimately disease associated with exposure.
Prereq: Enrollment in EHS program, and Grad standing.

6320 Global Health and Environmental Microbiology G 3
Fundamentals and emerging issues of health significant microorganisms (bacteria, viruses, protozoa) from water, air, soil and food, and their sources, transmission routes, treatments, detection methods and study tools.
Prereq: Not open to students with credit for 730. Cross-listed in FdScTe.

7193 Individual Studies in Environmental Health Sciences G 1 - 6
Individual studies in Environmental Health Sciences focusing on applied topics.
Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 6 completions. This course is graded S/U.

7194 Group Studies in Environmental Health Sciences G 1 - 3
Group studies in Environmental Health Sciences.
Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

7350 Special Topics in Environmental Health Sciences G 1 - 3
Opportunity for students to pursue a particular environmental health interest that is not available through existing topical offerings.
Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

7360 Water Contamination: Sources and Health Impact G 3
Topics focus on understanding the sources, the transport mechanisms and the fate of microbial and chemical contaminants in water, human exposure risks, tracking methods, linking to other environmental matrices and the public health impacts.
Prereq: Not open to students with credit for 729.

7365 Principles of Risk Assessment G 3
Introductory course that includes discussion of a variety of topics in human exposure and related risk assessment.
Prereq: Not open to students with credit for 831.

7380 Exposure Science Monitoring Techniques G 3
Environmental health science is a multidiscipline profession focusing mainly on public (human) health issues related to food/water/beverage sanitation, and water, air and land contamination and pollution. Emphasis on the principles and practices of human exposure monitoring of contaminants in air, water, soil, and food including field sampling, analytical instrumentation, and methods.

7390 Major Human Diseases in Global Public Health G 3
Public health is focused on preventing illnesses and injuries or intervening to decrease the impact to populations of people. Emphasize on basic physiology, pathophysiology, and clinical evaluation of major human diseases that have significant global public health impact epidemiologically, politically, and economically with a focus on disease causes and prevention.

7899 Seminar in Environmental Health Sciences G 1 - 3
Seminar on topics that are relevant to students enrolled in programs in the division of environmental health sciences.
Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

8340 Molecular Techniques for Environmental Health Sciences G 3
Practical introduction to molecular techniques, as applied to research in environmental health sciences.
Prereq: Not open to students with credit for 835.

8899 Doctoral Seminar in Environmental Health Sciences G 1 - 3
Doctoral level seminar on topics that are relevant to students enrolled in the PhD program in health environmental health sciences.
Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

Public Health: Epidemiology

2410 Introduction to Epidemiology U 3
Introduction to the study of public health; history, methods, applications, and issues in epidemiology.

3193 Individual Studies in Epidemiology U 1 - 6
Individual Studies in Epidemiology.
Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 6 completions. This course is graded S/U.

3410H Honors Case Studies in Public Health U 3
This is an advanced undergraduate course in epidemiology that is designed for Honors students in Public Health or a related field. Students will learn about how epidemiology is used in the field of Public Health through a case study approach.
Prereq: Honors standing, and 2410.

4410 Social Epidemiology U 3
This is an advanced undergraduate course in epidemiology that presents students with the latest information about how social factors relate to disease outcomes. Students will learn about how epidemiologists measure social factors and then use these measures to study the relation between social factors and risk for different infectious and chronic diseases.
Prereq: 2410.

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4432 Injury: A Public Health Problem

U 3

This introductory course in injury prevention & control is designed primarily for upper-division undergraduates. Students will be exposed to/learn to develop skills such as summarizing research findings, translating & communicating these findings to an identified audience, & utilizing policy & advocacy for initiating public health change as it relates to injury prevention and control.

Prereq: 2410, and PubHHBP 3510; or permission of instructor.

5411 Outbreak Investigations

U G 3

Principles and practice of field epidemiology, including outbreak investigation and disease surveillance.

Prereq: 2410, or Grad standing, or permission of instructor. Not open to students with credit for 615.

5412 Infectious Diseases in the Developing World

U G 3

Introduction to the study of infectious diseases in the developing world. Recommended: 2410. Prereq: Not open to students with credit for 718.

5420 Infectious Disease Modeling in Humans and Animals

U G 3

Provides an introduction to computer models of infectious diseases and their applications. It includes lecture and laboratory and focuses on applications rather than mathematical theory. Prereq: Jr or Sr standing, or Grad standing; or permission of instructor.

5421 Mathematics of Infectious Disease Dynamics

U G 3

Provides an introduction to mathematical modeling of infectious diseases, including techniques for building and analyzing disease models, and discussions of calibration and comparison of models with data. This course is intended for graduate students in public health or other related disciplines and for upper level undergraduate and graduate mathematics students. Prereq: Math 1152, 1172, or 153; or permission of instructor. Cross-listed in Math.

5438 Cardiovascular Disease Epidemiology

U G 3

Introduction to the epidemiology of cardiovascular disease; risk factors, specific diseases, diagnostic procedures; review of classic and current studies.

Prereq: 2410, 6410, or 6430; or permission of instructor. Not open to students with credit for 817.

6400 Epidemiology for Experienced Health Professionals

G 3

Introduction to the nature and scope of epidemiology; survey of basic epidemiological methods and their application to selected acute and chronic health problems. For experienced health professionals.

Prereq: Enrollment in MPH-PEP program, or permission of instructor. Not open to students with credit for 6410 and 6420.

6410 Principles of Epidemiology

G 3

Introduction to the nature and scope of epidemiology; survey of basic epidemiological methods and their application to selected acute and chronic health problems. For non-majors.

Prereq: Not open to students with credit for 6430.

6411 Biological Basis of Public Health

G 3

Molecular and epidemiologic evidence of biological mechanisms in major diseases of concern for public health.

Prereq: Grad standing in Public Health, or permission of instructor. Not open to students with credit for 704.

6412 Basic Principles in Clinical and Translational Science

G 2

Identification of clinical and translational research issues, assessment of the literature, ethically responsible research, cross-disciplinary training and mentoring.

Prereq: Enrollment in MPH-CTS program, or permission of instructor. Repeatable to a maximum of 2 completions. This course is graded S/U.

6413 Conducting and Communicating Research in Clinical and Translational Science

G 2

Design and writing of protocol, study methods and implementation, community engagement, informatics, translational teamwork. Scientific communication skills and dissemination of clinical and translational science.

Prereq: Enrollment in MPH-CTS program, or permission of instructor. Repeatable to a maximum of 2 completions. This course is graded S/U.

6415 Nutrition in Public Health

G 3

Relationships between dietary intake and diseases affecting the public health.

Prereq: 6410 or 6430, or permission of instructor.

6430 Epidemiology I

G 4

Introduction to the nature and scope of epidemiology; survey of basic epidemiological methods and their application to selected acute and chronic health problems. Lecture and laboratory sessions.

Prereq: Enrollment in MPH-Epidemiology, or any Public Health MS or PhD program, or permission of instructor. Not open to students with credit for 710.

6431 Design and Implementation of Health Surveys

G 3

Introduction to health survey methods, with public health applications.

Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 705.

6432 Injury Epidemiology

G 2

Introduction to injury epidemiology; historical context, trends, research methods and issues; survey of areas of injury epidemiology and prevention.

Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 714.

6435 Chronic Disease Epidemiology

G 3

Survey of the epidemiology of chronic diseases, including cancer, heart disease, stroke, diabetes mellitus, chronic obstructive pulmonary disease, and neurodegenerative diseases. Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 814.

6436 Infectious Disease Epidemiology

G 3

Introduction to the epidemiology of infectious diseases, with focus on basic methods for investigation, control, and prevention of communicable disease.

Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 815.

6437 Cancer Epidemiology

G 3

Epidemiology of cancer, including etiology, risk factors, neoplastic processes, screening, control; application of statistical methods; molecular genetic basis of carcinogenesis.

Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 816.

6440 Reproductive and Perinatal Epidemiology

G 3

Epidemiology of reproductive and perinatal health and methodologic challenges unique to this area.

Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 820.

6441 Women's Health Issues

G 3

Overview of issues related to women's health from epidemiological and behavioral perspectives.

Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 818.

7193 Individual Studies in Epidemiology

G 1 - 6

Individual Studies in Epidemiology.

Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 6 completions. This course is graded S/U.

7194 Group Studies in Epidemiology

G 1 - 3

Group Studies in Epidemiology.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

7410 Epidemiology II

G 4

Design of epidemiologic studies including cross-sectional studies, case-control studies, cohort studies, clinical trials, and group-randomized trials.

Prereq: 6430, or permission of instructor. Not open to students with credit for 711.

7411 Epidemiology in Environmental Health

G 3

Principles and application of epidemiologic methods in the investigation and control of health problems stemming from environmental hazards.

Prereq: 6430, or permission of instructor. Not open to students with credit for 713.

7412 Principles and Procedures for Human Clinical Trials

G 3

Principles and procedures for clinical professionals in the design, conduct and analysis of human clinical trials.

Prereq: 7410 and PubHBio 6211, or permission of instructor. Not open to students with credit for 715.

7430 Epidemiology III

G 4

Analysis and interpretation of data from case-control and cohort studies and from clinical trials.

Prereq: 7410 and 6211, or permission of instructor. Not open to students with credit for 712.

7431 Epidemiologic Methods

G 3

Critique and justification for methods of designing, analyzing and interpreting epidemiological data; social, historical and philosophical foundations of epidemiologic methods.

Prereq: 7430 and 6212, or permission of instructor. Not open to students with credit for 810.

7830 Phytochemicals in Human Health: Crops to the Clinic

G 3

Covers the function and control of phytochemicals in plants, the function of phytochemicals in human health, delivery of phytochemicals through foods in the diet, strategies when designing studies examining foods for health, and policy and sustainability considerations.

Prereq: Biochem 4511 (511) or 5613 (613), or equiv; or permission of instructor. Not open to students with credit for FdScTe 7810. Cross-listed in FdScTe, HumnNtr, BSGP, and HCS.

7998 Culminating Project Seminar

G 1

The goal of this course is to facilitate students through the process of developing their culminating project. By the end of the semester, it is expected that students will have submitted their culminating project proposals and literature reviews, culminating project approval form, and their application to the IRB and other review boards as needed.

Prereq: Enrollment in MPH program in Epidemiology. This course is graded S/U.

8411 Epidemiology of Obesity

G 3

Prevalence, trends, risk factors, measurement, outcomes and issues related to obesity; critical reading and discussion of research on epidemiology of obesity.

Prereq: 7410 and PubHBio 6211, or permission of instructor. Not open to students with credit for 819.

8413 Molecular Epidemiology of Infectious Diseases

G 3

Provides students with the knowledge and skills to study disease outbreaks in humans and animals using molecular biology techniques. Recommended basic knowledge of infectious diseases and molecular biology.

Prereq: Permission of instructor. Not open to students with credit for VetPrev 700 or 724. Cross-listed in VetPrev 8700.

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8430 Epidemiology IV	G 1 - 4		
Students will gain hands-on experience working with data from existing epidemiological studies. Through structured projects, students learn to develop appropriate research questions, and analyze, interpret, and present their results.			
Prereq: 7430 and PubHBio 6212, or permission of instructor.			
8899.01 Doctoral Seminar in Epidemiology: Research Methods	G 1 - 3		
Seminar for doctoral students in epidemiology with a focus on critically reviewing research articles.			
Prereq: Enrollment in PhD program. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.			
8899.02 Doctoral Seminar in Epidemiology: Teaching Methods	G 2		
Seminar for doctoral students in epidemiology with a focus on teaching methods.			
Prereq: Enrollment in PhD program. Not open to students with credit for 875. This course is graded S/U.			
8899.03 Introductory Doctoral Seminar in Epidemiology	G 1		
Designed for PhD students in the Division of Epidemiology. During the course of two semesters, students will be introduced to the faculty in Epidemiology and learn about their research programs and read important papers in the field of Epidemiology. Through these activities, students will be introduced to the philosophy and practice of epidemiology.			
Prereq: Enrollment in Public Health PhD program. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			
Public Health: Health Behavior & Health Promotion			
3193 Individual Studies in Health Behavior and Health Promotion	U 1 - 6		
Individual studies in Health Behavior and Health Promotion focusing on applied topics.			
Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 6 completions. This course is graded S/U.			
3510 Role of Behavior in Public Health	U 3		
Introduction to concepts of health behavior and its role in public health; social determinants of health; applications to selected community health problems and issues.			
5520 Public Health in Action	U G 2		
Directed service learning group project in partnership with a public health agency.			
6510 Preventing Disease and Promoting Health through Behavioral Science	G 3		
Examination of behavioral and social science concepts as the basis for public health practice; topics include transferring knowledge, motivating and aiding behavior change efforts, and working with the community.			
Prereq: Grad standing, and enrollment in Public Health program. Not open to students with credit for 720.			
6515 Advanced Preventing Disease and Promoting Health	G 3		
This course will address the philosophical underpinnings, health behavior theories, and strategies for effective behavioral and social change efforts in public health.			
Prereq: Enrollment in College of Public Health Graduate Program with specialization in Health Behavior and Health Promotion.			
6535 Community Engagement and Collaborative Community Problem-Solving	G 3		
This class provides the opportunity to review a number of concepts critical to collaborative community problem-solving. A broad range of literature will be reviewed and students will have the opportunity to experience several simulated processes unique to the collaborative problem-solving process.			
Prereq: 6510, or permission of instructor.			
7193 Individual studies in health behavior and health promotion	G 1 - 6		
Individually designed study of selected topics in health behavior and health promotion.			
Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 16 completions. This course is graded S/U.			
7520 Community Health Assessment	G 2		
Models of community health assessment; skills in identifying, analyzing and integrating information concerning community resources and needs.			
Prereq: Enrollment in Public Health, and Grad standing; or permission of instructor.			
7522 Program Planning and Implementation	G 3		
Planning and implementation of programs to address public health issues in defined populations; development of a health promotion program for a specific community partner.			
Prereq: Enrollment in Public Health, or Grad standing; or permission of instructor. Not open to students with credit for 827.			
7528 Foundations of Professional Practice in Health Promotion	G 2		
Professional practice settings and expectations for health promotion; application of health promotion theories and perspectives to community problems.			
Prereq: Enrollment in Public Health, and Grad standing; or permission of instructor. Not open to students with credit for 820.			
7532 Program evaluation in public health	G 3		
Examination of evaluation models for public health programs; exploration of philosophical and scientific issues in evaluation; and skill building in both qualitative and quantitative evaluation methods.			
Prereq: Enrollment in Public Health, and Grad standing; or permission of instructor. Not open to students with credit for 824.			
7534 Research Methods in Health Behavior and Health Promotion	G 3		
Social science research methods emphasizing methods used to assess the dimensions of health-relevant behaviors and community-based prevention research.			
Prereq: Enrollment in Public Health, and Grad standing; or permission of instructor. Not open to students with credit for 834.			
7542 Settings and Special Populations in Health Promotion	G 3		
Critical characteristics of principal settings in which health promotion interventions occur and populations to which they apply such as youth, elderly, racial and ethnic minorities.			
Prereq: Enrollment in Public Health, and Grad standing; or permission of instructor. Not open to students with credit for 822.			
7544 Fundamental Determinants of Population Health and Implications for Public Health	G 3		
Presents the ideas that population health is determined by factors outside of health care and individual behavior occurs within a social context.			
Prereq: Enrollment in Public Health, and Grad standing; or permission of instructor. Not open to students with credit for 830.			
7550 Special Topics in Health Behavior and Health Promotion	G 1 - 6		
Regular class on topics that are relevant to students enrolled in programs in the Division of Health Behavior and Health Promotion.			
Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs or 6 completions.			
7552 Substance Abuse Prevention	G 2		
History of substance abuse prevention efforts; theoretical foundations and elements of successful programs.			
Prereq: Enrollment in Public Health, and Grad standing; or permission of instructor. Not open to students with credit for 826.			
7554 Cancer Behavioral Science	G 2		
Overview of behavioral issues associated with cancer at the individual and community levels.			
Prereq: Enrollment in Public Health, and Grad standing; or permission of instructor. Not open to students with credit for 828.			
7558 Social-Ecological Strategies in Prevention	G 2		
Community health promotion strategies using policy, systems, and environmental change perspectives.			
Prereq: Enrollment in Public Health, and Grad standing; or permission of instructor. Not open to students with credit for 858.			
7562 Theoretical Approaches to Health Behavior Change in Public Health Applications	G 2		
Major theories drawn from social and behavioral science literature, pertinent to understanding and addressing problems in health behavior.			
Prereq: Enrollment in Public Health, and Grad standing; or permission of instructor.			
7564 A Public Health Approach to Adolescent Health	G 2		
Focuses on the health of adolescents in the United States. Emphasis is on examining health and risk behaviors from developmental & contextual perspectives with reference to policies and programs for preventing health problems and promoting the well-being of this population.			
7570 Obesity, a Multidisciplinary Foundation	G 2		
This course examines the context, causes, and consequences of obesity in the United States today. We will begin with an examination of trends in obesity and a description of the scope of the problem. Next, the course will examine physiological, psychological, sociological, and economic factors that contribute to the obesity problem.			
Cross-listed in HDFS.			
7899.01 Seminar: Culminating Project I	G 1		
The purpose of the culminating project is to provide students with the opportunity to integrate and synthesize knowledge and experience obtained during their academic course of study. Most culminating projects focus on: (A) Community assessment; (B) Program planning and implementation; (C) Program evaluation or (D) Other projects as approved by your advisor.			
Prereq: Open only to MPH Health Behavior Health Promotion students preparing for their culminating project. This course is graded S/U.			
7899.02 Seminar: Culminating Project II	G 1		
The purpose of the culminating project is to provide students with the opportunity to integrate and synthesize knowledge and experience obtained during their academic course of study. Most culminating projects focus on: (A) Community assessment; (B) Program planning and implementation; (C) Program evaluation or (D) Other projects as approved by your advisor.			
Prereq: Open only to MPH Health Behavior Health Promotion students preparing for their culminating project. This course is graded S/U.			

Public Health: Health Behavior & Health Promotion 389

8562	Advanced Theory of Health Behavior Change in Public Health Applications	G	2	7194	Group Studies in Health Services Management and Policy	G	1 - 3
	In-depth examination of theories pertinent to health behavior including history and critique of theoretical approaches.			Group studies of special topics within health services management and policy. Repeatable to a maximum of 9 cr hrs or 6 completions. This course is graded S/U.			
	Prereq or concur: 7562.						
8899.01	First Year Doctoral Seminar in HBHP	G	1	7601	Economic Analysis of Health Services	G	3
	Seminar concerning academic and professional development topics for Ph.D. students, with a focus on selecting research topics, reviewing research, course development, and other topics. Prereq: Enrollment in Health Behavior and Health Promotion Ph.D. Program. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			This course will cover applications of microeconomic analysis to the health services industry, with emphasis on the market structure and managerial decisions.			
	Prereq or concur: 8899.01.			Prereq or concur: 6611, or permission of instructor. Not open to students with credit for 801.			
8899.02	Second Year Doctoral Seminar in HBHP	G	1	7602	Health Insurance and Payment Policy	G	3
	A seminar for Ph.D. students in Health Behavior and Health Promotion emphasizing the selection and development of research projects including proposing preparation and funding sources.			This course examines the health insurance mechanisms used to pay for healthcare in the United States. The course will examine the U.S. system's origins, the incentives and policy implications that the system creates, past and present reforms, and how the US system compares to health care financing systems in other industrialized countries.			
	Prereq: Enrollment in PubHHBP Ph.D. Program. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			Prereq: Grad standing in HSMP: HSMP-MHA, MPH-MP with HMP specialization, or PUBHLTH-PH with HMP specialization, or permission of instructor. Not open to students with credit for 802.			
Public Health: Health Services Management & Policy							
3193	Individual Studies in Health Services Management and Policy	U	1 - 6	7603	Economic Evaluation of Health Care Programs	G	3
	Individual Studies in Health Services Management and Policy.			Intended to give students an overview of the theory and applications of cost-benefit analysis, cost-effectiveness analysis, cost-utility analysis and related forms of economic evaluation of interventions in the health care sector.			
	Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 6 completions. This course is graded S/U.			Prereq: Grad standing, or permission or instructor.			
3650	Health Economics for Health and Policy Students	U	3	7605	Introduction to Health Policy	G	3
	This course is designed to provide an intuitive understanding of health economics and policy for non-economists. It will cover the basics and health markets and apply those concepts to policy applications. Economics 2001.01 recommended but not required.			Introduction to public policy concepts and processes as they apply to the organization, financing, and delivery of health services.			
	Prereq: Enrollment in HSMP-MHA program. Recommended but not required.			Prereq: 6611, or permission of instructor. Not open to students with credit for 805.			
4650	United States & International Health Care	U	3	7606	Applied Health Policy	G	3
	Introduction to the history, organization and politics of the global health care system, critical review of selected issues using different analytic frameworks.			Introduction to public policy concepts and processes as they apply to the organization, financing, and delivery of health services.			
	Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 6 completions. This course is graded S/U.			Prereq: 6609, or permission of instructor. Not open to students with credit for 805.			
6609	Health Care Organization for Experienced Professionals	G	3	7608	The Role of Science in Health Policy-Making	G	3
	Analysis of arrangements for the organization, financing and delivery of health care services.			This course will explore the role that science, including social science, plays in public health & health services policy-making. It will consider the conditions under which scientific research findings do & do not influence policy-making with reference to the nature of scientific inquiry & of public policy; the intellectual, institutional, and practical similarities & differences between them.			
6610	Introduction to Health Care Organization	G	3	7610	Public Health Law	G	3
	Analysis of arrangements for the organization, financing, and delivery of health care services. Prereq: Not open to students with credit for 800.			The course will focus on the use of legal tools to improve the public's health. The course will survey the legal framework in which the government may regulate for the public's health, addressing issues including the origins and scope of public health authority, constitutional limits on public health powers, emergency legal preparedness, and public health tort litigation. Cross-listed in Law 8810.			
6611	Health and Health Care Services in the U.S.	G	3	7611	Health Care Law for Managers	G	3
	This course provides an overview of the U.S. health care system. Topics covered include health and health care disparities, social determinants of health, health care access and utilization, financing of care through public and private health insurance, provider reimbursement, assessment of quality, quality improvement, and new forms of health care delivery and payment.			Overview of the U.S. legal system as it applies to the U.S. health care field.			
	Prereq: Enrollment in MPH-HMP program, or HSMP-MHA program, or PUBHLTH-PH program, or permission of instructor. Not open to students with credit for 800.			Prereq: Grad standing in HSMP-MHA, or MPH-MP and HMP subplan, or PUBHLTH-PH and HMP subplan, or permission of instructor. Not open to students with credit for 811.			
6615	Public Health Leadership and Organizational Behavior	G	3	7612	FDA Law and Policy	G	3
	This course introduces students to major theories and concepts of organizational behavior and leadership and applies these to challenges facing public health organizations.			This course explores legal, policy and public health issues related to products regulated by the U.S. Food and Drug Administration. We will critically examine the regulatory framework for food, drugs, biologics, vaccines, medical devices, and cosmetics. We will also consider the relationship between the regulatory framework and other laws, such as patent, antitrust, and products liability.			
	Prereq: Grad standing, or permission of instructor.						
6620	Critical Appraisal of Population Health Evidence	G	3	7613	Tobacco Regulation and Policy	G	2
	This course will provide practical experience in examining multiple sources of evidence on population health management and public health interventions and will introduce students to the tools used to perform systematic reviews.			This course examines the regulation of tobacco, with a focus on the role of the US FDA. This course highlights the history, significant provisions, and effects of the 2009 Tobacco Control Act, as well as the vital role that public health researchers and professionals play in influencing how the FDA implements the Act.			
	Prereq: Grad standing, or permission of instructor.						
6625	Leveraging Healthcare Data for Practice and Policy Change	G	3	7615	Health Services Organizational Management	G	3
	This course will prepare students to develop questions for and utilize results from healthcare database research. Strengths and limitations of healthcare databases commonly used for research will be considered, and special attention will be devoted to nationally representative databases and local electronic medical record data.			This course is designed to provide students with a strong foundation in health services management, focusing on human resources management and organizational behavior.			
	Prereq: A grade of C- or higher in PubHEpi 6410 and PubHBio 6210; or permission of instructor.			Prereq: Grad standing in Public Health (MPH-HMP, MHA, or PhD) or permission of instructor. Not open to students with credit for 815.			
6630	Project Management for Health Care and Public Health	G	3	7617	Health Services Leadership and Organizational Change	G	3
	This course introduces students to the role of project management in executing successful projects. The course focuses on concepts & tools of basic project management, with a special emphasis on managing projects in health care & public health settings. Students will learn fundamental techniques for project planning, scheduling & monitoring through case studies, class exercises and assignments.			Overview of leadership and organizational change theories, as well as the application of those theories to case studies in health sector organizations.			
	Prereq: Grad standing, or permission of instructor.			Prereq: 7615 and Grad standing in the HSMP-MHA program, or permission of instructor. Not open to students with credit for 817.			
7193	Individual Studies in Health Services Management and Policy	G	1 - 6	7620	Health Services Finance I	G	3
	Study of individually designed topics not otherwise available in the curriculum.			Principles of finance and accounting applied to health service organizations.			
	Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 6 completions. This course is graded S/U.			Prereq: An introductory course in financial accounting, or permission of instructor. Not open to students with credit for 820.			
7621	Health Services Finance II	G	3	7622	Health Services Finance III	G	3
	Continuation of 7620 emphasizing financial analysis, financial planning, and capital project analysis.			This course continues the study of financial management in health services organizations, focusing on capital budgeting, financing, and investment decisions.			
	Prereq: 7620, or permission of instructor. Not open to students with credit for 821.			Prereq: 7621, or permission of instructor. Not open to students with credit for 822.			

390 Public Health: Health Services Management & Policy

7622	Health Services Financial Decision-Making	G	3	7685	Healthcare Management Consulting Practice	G	3
	Principles of financial decision-making in health service organizations, with emphasis on applications of decision support systems.			To develop management consulting practice skills involving strategic thinking, planning, analysis, and implementation phases of consulting engagements.			
	Prereq: 7621, or permission of instructor. Not open to students with credit for 822.			Prereq: Enrollment in HSMP-MHA program, or permission of instructor.			
7624	Health Economics for Experienced Professionals	G	3	7699	Seminar in Health Services Management and Policy	G	1 - 3
	Designed for public health professionals who wish to enhance their knowledge of the economic principles that drive the health care system. The course will introduce you to the use of economic analysis and economic evaluation for healthcare decision making.			Small group seminar with focus on integrative projects in health services management and policy.			
	Prereq: Not open to students with credit for 824.			Prereq: Grad standing in PubHHMP, or permission of instructor. Repeatable to a maximum of 4 cr hrs or 2 completions.			
7631	Strategic Management and Program Development	G	3	8671	Health Care Outcomes Measurement	G	2
	Techniques and methods for strategic management and project planning in health care organizations and settings.			Evaluation of specific techniques for measuring outcomes in clinical and health services research studies.			
	Prereq: Enrollment in MHA program, or permission of instructor. Not open to students with credit for 831.			Prereq: Grad standing in PubHHMP, or permission of instructor.			
7632	Strategic Change for Public Health and Population Health Mgmt	G	3	8672	Advanced Topics in Health Policy	G	4
	This course will provide students a foundation in the theories, concepts & methods of strategic planning and the management of organizational change as applied to public health & population health management endeavors.			Designed for doctoral and advanced masters students in the College of Public Health and other OSU colleges. It will provide students with a solid background of high-level policy scholarship on topics fundamental to the health care system.			
7640	Mental Health & Disability Policy	G	3				
	Investigation of public policy in the area of mental health and disability and the politics that are the origin and result of these policies.			Prereq: 7605 or 7640; or permission of instructor.			
	Prereq: Not open to students with credit for 840.						
7672	Clinical Rotations	G	1½	8899	Doctoral Seminar in Health Services Management and Policy	G	1 - 2
	Individual assignments within health care organizations to observe operations.			Doctoral level seminar on topics that are relevant to students enrolled in the PhD program in health services management and policy.			
	Prereq: Grad standing in PubHHMP, or permission of instructor. Not open to students with credit for 870.02.			Prereq: Grad standing in Public Health, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 6 completions. This course is graded S/U.			
7673	Understanding Health Care Organization Data	G	1½				
	Application of data from various sources to inform decision making in health services settings and in health policy.						
	Prereq: PubHBio 6210, or permission of instructor. Not open to students with credit for 870.03.						
7675	Human Resources Management in Health Care	G	1½	Quechua			
	Overview of human resources and its strategic importance to health care organizations.						
	Prereq: Not open to students with credit for 870.05.						
7676	Health Care Marketing	G	1½	5501.01	Beginning Quechua I: Classroom	U G	4
	Overview of topics in marketing and communications and how they apply to health care delivery.			Quechua 5501.01 (501) is a beginning language course for students with no previous study experience in Quechua. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru.			
	Prereq: Not open to students with credit for 870.06.			Prereq: Not open to students with credit for 5501.51 or 501 or to native speakers. This course is available for EM credit. GE for lang course. FL Admis Cond course.			
7678	Approaches to Health Services Research	G	3	5501.51	Beginning Quechua I: Individualized Instruction	U G	1 - 4
	Overview of the field of health services research and the role of health services research in improving health care delivery.			Quechua 5501.51 (501) is a beginning language course for students with no previous study experience in Quechua. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru.			
	Prereq: PubHBio 6210 and PubHEpi 6410, or permission of instructor. Not open to students with credit for 871.			Prereq: Not open to students with credit for 5501.01 (501) or to native speakers. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.			
7679	Quality & Patient Safety	G	1½	5502.01	Beginning Quechua II: Classroom	U G	4
	Examination of quality management and quality measurement in health care with emphasis on patient safety.			For students who have taken Quechua 5501.01 (501) or who have previous basic knowledge of Quechua at the beginning level. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru.			
	Repeatable to a maximum of 3 cr hrs. This course is graded S/U.			Prereq: 5501.01 (501), or 4 cr hrs of 5501.51; or permission of instructor. Not open to students with credit for 5502.51 or 502 or to native speakers. This course is available for EM credit. GE for lang course. FL Admis Cond course.			
7680	Operations Management for Health Service Organizations	G	3	5502.51	Beginning Quechua II: Individualized Instruction	U G	1 - 4
	Concepts and techniques for managing operation in health service organizations; emphasis on management perspective and decision-making.			For students who have taken Quechua 5501.01 or 5501.51 (501) or who have previous basic knowledge of Quechua at the beginning level. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru.			
	Prereq: Grad standing in PubHHMP, or permission of instructor. Not open to students with credit for 880.			Prereq: 5501.01 (501) or 4 cr hrs of 5501.51, or permission of instructor. Not open to students with credit for 5502.01 (502) or to native speakers. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.			
7682	Information Systems for Health Services Organizations	G	1½	5503.01	Intermediate Quechua I: Classroom	U G	4
	This course is designed to provide students with an understanding of issues in the management of information and information technology in health care organizations, the role of information technologies in improving organizational performance, and the application of information technologies in health service organizations.			For students who have taken Quechua 5502 (502) or who have previous basic knowledge of Quechua at the beginning/intermediate level. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru.			
	Prereq: 7680, or permission of instructor. Not open to students with credit for 882.			Prereq: 5502.01 (502), or 4 cr hrs of 5502.51; or permission of instructor. Not open to students with credit for 5503.51 or 503 or to native speakers. This course is available for EM credit. GE for lang course. FL Admis Cond course.			
7683	Operations Management and System Design	G	3	5503.51	Intermediate Quechua I: Individualized Instruction	U G	1 - 4
	This course is designed to introduce students to fundamental theories, principles and practices for designing and managing operations. The course is structured to emphasize the unique aspects of process and system design in the health care organizations and in the community health system, including processes that cross organizational boundaries and include diverse stakeholders.			For students who have taken Quechua 5502 (502) or who have previous basic knowledge of Quechua at the beginning/intermediate level. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru.			
	Prereq: Grad standing in Public Health - Health Services Management and Policy Master of Health Administration program, or permission of instructor. Not open to students with credit for 7631.			Prereq: 5502.01 (502), or 4 cr hrs of 5502.51; or permission of instructor. Not open to students with credit for 5503.01 (503) or to native speakers. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.			
7684	Health Services Strategy and Marketing	G	3	5504.01	Intermediate Quechua II: Classroom	U G	4
	Students will learn principles, discipline, & analytic tools that comprise successful strategic management in healthcare organizations, including: strategic assessment, strategy development, implementation planning, & marketing. Emphasis will be placed on exploring strategic issues related to transitioning from volume to value-based models of care, impacts of ACA & population & community health.			Quechua 5504.01 (504) is an intermediate language course intended for students with experience in Quechua. The variety taught will be from the southern Quechua family spoken in Bolivia and Peru. Closed to native speakers of this language.			
	Prereq: Grad standing in Public Health - Health Services Management and Policy Master of Health Administration program, or permission of instructor. Not open to students with credit for 7631.			Prereq: 5503.01 (503), or 4 cr hrs of 5503.51; or permission of instructor. Not open to students with credit for 5504.51. This course is available for EM credit. FL Admis Cond course.			

5504.51 Intermediate Quechua II: Individualized Instruction U G 1 - 4

Quechua 5504.51 is an intermediate language course intended for students with experience in Quechua. The variety taught will be from the southern Quechua family spoken in Bolivia and Peru. Closed to native speakers of this language. Prereq: 5503.01 (503), or 4 cr hrs of 5503.51; or permission of instructor. Not open to students with credit for 5504.01. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. FL Admis Cond course.

5505.01 Advanced Quechua I; Classroom U G 3

Quechua 5505.01 is an advanced language course intended for students with experience in Quechua. This course is comprehensive, integrating culture and language. It will be useful for students that want to travel to the Andean countries or who have an interest in studying Quechua language, culture and society. The variety taught is from the southern Quechua family spoken in Bolivia and Peru. Prereq: 5504.01 or 4 cr of 5504.51, or permission of instructor. Students enrolled in Quechua 5501.01/.51, 5502.01/.51, 5503.01/.51, and 5504.01/.51 are not eligible to enroll simultaneously in subsequent levels of Quechua. FL Admis Cond course.

5506.01 Advanced Quechua II: Classroom U G 3

Quechua 5506.01 is an advanced language course intended for students with experience in Quechua. This course is comprehensive, integrating culture and language. It will be useful for students that want to travel to the Andean countries or who have an interest in studying Quechua language, culture and society. The variety taught is from the southern Quechua family spoken in Bolivia and Peru. Prereq: 5505.01, or permission of instructor. FL Admis Cond course.

Radiologic Sciences and Therapy**3089 Radiography Practicum I U 1 - 10**

Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology. A direct field experience will provide the student with 16-24 hours of clinical experience in imaging departments of a clinical affiliate. Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is available for EM credit.

3189 Radiography Practicum II U 1 - 10

Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology. A direct field experience will provide the student with 16-24 hours of clinical experience in imaging departments of a clinical affiliate. Prereq: 3089, and acceptance to the Radiography program.

3200 Evidence Based Practice in the Radiologic Sciences U 2

Scientific writing within the Radiologic Sciences and the review of practice guidelines that inform best clinical practices for imaging and treatment. Prereq: English 1110.xx, and credit for a second writing course. This course is available for EM credit.

3200E Evidence Based Practice in the Radiologic Sciences U 2

Scientific writing within the Radiologic Sciences and the review of practice guidelines that inform best clinical practices for imaging and treatment. Prereq: Honors standing, and English 1110.xx, and credit for a second writing course. This course is available for EM credit.

3289 Radiation Therapy Practicum I U 1 - 10

Clinical application of patient care, simulation and treatment procedures performed in Radiation Therapy. Emphasis is directed toward competently performing machine function and patient setup. Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3310 Introduction to the Radiation Sciences U 3

Introduction to the fields in the radiation sciences. Radiation safety, patient care, and clinical practice principles will be emphasized. Application of principles will be reinforced in laboratory sessions. Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3389 Radiation Therapy Practicum II U 1 - 10

Clinical application of patient care, simulation and treatment procedures performed in Radiation Therapy. Emphasis is directed toward competently performing machine function and patient setup. Prereq: 3289, and enrollment in RadSci; or permission of instructor.

3411 Radiographic Procedures I U 3

Principles of radiography of the chest, bronchial tree, abdomen, alimentary tract, and appendicular skeleton, with application in the laboratory. Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3412 Radiographic Procedures II U 3

Principles of radiography of the vertebral column, spinal canal, bony thorax, cerebral and visceral cranium, arthrography, urinary system, and reproductive systems. Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3414 Radiation Therapy Equipment and Instrumentation U 4

An introduction to the terminology, treatment charting, simulation, beam alignment, machine components, and the technical aspects of treatment in a clinical environment. Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3425 Radiographic Imaging I U 3

Investigation of the principles of radiation production, radiation protection and radiologic image formation. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 425 or RadTech 425. This course is available for EM credit.

3430 General Concentration in Sonography 1 U 3

An introduction to the sonography profession with an emphasis on OB/GYN medical sonography.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3431 General Concentration in Sonography 2 U 3

Provides content information about the use of sonography to image anatomy and pathology associated with the abdominal organs.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3471 Radiologic Physics U 3

Investigation of the principles of radiographic, fluoroscopic, CT equipment; radioactivity; advanced radiation production, emission spectrum, and interaction with matter.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3483 Dosimetry Calculation U 3

Principles of dosimetric calculations, terms and calculation variables are emphasized according to specific beam energies. Common dosimetry problems occurring during patient treatments are discussed.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3486 Diagnostic Medical Sonography Physics 1 U 3

A practical application of the physics of ultrasound production. Emphasis is placed on instrumentation used in medical sonography.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3487 Diagnostic Medical Sonography Physics 2 U 3

A continuation of Rad Sci 3486 with emphasis on the physics of ultrasound to better understand transducers and the interactions of sounds waves at every human interface.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3489 Diagnostic Medical Sonography Practicum I U 1 - 8

Instruction and experience in the performance and interpretation of sonographic images.

Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 2 completions. This course is available for EM credit.

3573 Applied Radiation Oncology I U 3

Introduction to neoplastic disease including incidence, mortality, epidemiology, etiology, detection, prevention, risk, stage and grading. Emphasis on radiation treatment positioning, fields, and doses of disease sites.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3574 Applied Radiation Oncology 2 U 3

A continuation of RadSci 3573 with an emphasis on radiation treatment positioning, fields, and doses of neoplastic disease sites.

Prereq: 3573.

3589 Diagnostic Medical Sonography Practicum II U 1 - 8

Instruction and experience in the performance and interpretation of sonographic images.

Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 2 completions. This course is available for EM credit.

3672 Radiologic Sectional Anatomy U 3

Identification of anatomic structures as seen in cadaver, CT, MR, and sonographic from multiple orientations, to include volumetric 3-D anatomical imaging.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

3689 Sonography Practicum III U 1 - 10

Instruction and experience in the performance and interpretation of sonographic images.

Prereq: 3589, and acceptant to the Sonography program.

4089 Radiography Practicum III U 1 - 10

Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology. A direct field experience will provide the student with 32 hours of clinical experience per week in imaging departments of a clinical affiliate.

Prereq: 3089, and enrollment in RadSci; or permission of instructor. Repeatable to a maximum of 15 cr hrs or 2 completions. This course is available for EM credit.

392 Radiologic Sciences and Therapy

4189 Radiography Practicum IV

U 1 - 10

Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology. A direct field experience will provide the student with 16-24 hours of clinical experience per week in imaging departments of a clinical affiliate. Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 2 completions. This course is available for EM credit.

4289 Radiography Practicum V

U 1 - 10

Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology. A direct field experience will provide the student with 16-24 hours of clinical experience per week in imaging departments of a clinical affiliate. Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 2 completions. This course is available for EM credit.

4389 Radiation Therapy Practicum III

U 1 - 10

Clinical application of patient care, simulation, treatment and brachytherapy procedures performed in Radiation Therapy. Emphasis is directed toward machine function, patient set up and variation in procedures.

Prereq: 3289 and 3389, and enrollment in RadSci; or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is available for EM credit.

4426 Radiographic Imaging II

U 3

Advanced radiologic image formation, image assessment, and radiographic quality management and testing.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

4432 General Concentration in Sonography 3

U 3

Focuses on the use of medical sonography to image anatomy and pathology associated with the neck, breast, scrotum, extremities and neonatal cranial structures.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

4478 Radiation Therapy Physics I

U 3

Analysis of atomic structure, production, modes of radioactive decay and calculation of source activity. Fundamental applications of brachytherapy implants as it relates to specific source handling, treatment techniques, and treatment planning.

Prereq: Enrollment in RadSci, or permission of instructor.

4482 Radiation Therapy Physics II

U 3

An analysis of interaction and measurement of ionizing radiation in radiation therapy. Concepts include beam quality, measurement of absorbed dose, dose distribution, scatter analysis and electron beam radiation therapy.

Prereq: 3471, and enrollment in RadSci; or permission of instructor. This course is available for EM credit.

4485 Treatment Planning

U 2

Analysis and implementation of new and established treatment methods as it relates to the treatment plans designed for optimal coverage of the tumor volumes, avoidance of critical structures and constraints of the treatment units.

Prereq: 3483, and Enrollment in RadSci; or permission of instructor. This course is available for EM credit.

4488 Diagnostic Medical Sonography Physics 3

U 3

A continuation of Rad Sci 3487 with emphasis on the physics of spectral Doppler, color Doppler, and total quality management with practical application to sonography.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

4489 Radiation Therapy Practicum IV

U 1 - 10

Clinical application of patient care, simulation, treatment, brachytherapy and treatment planning procedures performed in Radiation Therapy. Emphasis is directed toward machine function, patient set up and variation in procedures.

Prereq: 3289, 3389, and 4389, and Enrollment in RadSci; or permission of instructor. Repeatable to a maximum of 10 cr hrs or 20 completions. This course is available for EM credit.

4520 Vascular Sonography 1

U 3

An introduction to venous imaging and noninvasive testing of the upper and lower extremities and the vascular integration of transplanted organs.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

4521 Vascular Sonography 2

U 3

An introduction to arterial imaging and noninvasive testing of the upper and lower extremities and vascular integration of the carotid arteries, and bypass grafts.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

4530 Quality Management in Radiologic Sciences

U 3

Investigation of QM principles and techniques specific to the imaging sciences including modality specific quality control testing and national/state requirements.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

4589 Radiation Therapy Practicum V

U 1 - 10

Clinical application of patient care, simulation, treatment, and treatment planning procedures performed in Radiation Therapy. Emphasis is directed toward competence in machine function, patient set up, plan changes and variations in procedures.

Prereq: 3289, 3389, 4389, and 4489, and enrollment in RadSci; or permission of instructor.

4615 Radiographic Clinical Correlations

U 3

The fundamentals of radiographic diagnosis are explored with an emphasis on the correlations of the patient's medical history with radiographic findings.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

4618 Clinical Radiation Oncology

U 2

Pathology of neoplastic diseases of the human body emphasizing epidemiology, clinical presentation, detection and diagnosis, staging and treatment of the neoplasm relevant to radiation oncology.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

4630 Transitions to Clinical Practice

U 2

Provides the practical skills necessary to apply radiation science theory in clinical practice and prepares students for the transition to professional in the imaging science workplace.

Prereq: Enrollment in RadSci, or permission of instructor.

4670 Radiobiology and Radiation Protection

U 2

Principles of cellular biology and the reactions from types of ionizing radiation specific to radiation sciences. Emphasis is on effects from radiation exposure, radiation safety and the radiation protection standards utilized in radiation sciences.

Prereq: Enrollment in RadSci, or permission of instructor. This course is available for EM credit.

4689 Vascular Sonography Practicum I

U 1 - 8

Instruction and experience in the performance and interpretation of vascular sonographic imaging.

Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 2 completions. This course is available for EM credit.

4789 Vascular Sonography Practicum II

U 1 - 8

Instruction and experience in the performance and interpretation of vascular sonographic imaging.

Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 2 completions. This course is available for EM credit.

5089 Computed Tomography Practicum

U G 1 - 4

Advanced operation, and application of CT technology, to include quality management, sectional anatomy, and supervised clinical practicum.

Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions. This course is available for EM credit.

5189 Magnetic Resonance Practicum

U G 1 - 4

Theory and clinical education in magnetic resonance imaging procedures.

Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions.

5289 Mammography/Breast Imaging Practicum

U G 1 - 4

An introduction to scientific writing within the Radiologic Sciences and the review of practice guidelines that inform best clinical practices for imaging and treatment.

Repeatable to a maximum of 16 cr hrs or 4 completions.

5389 Administration and Quality Management Practicum

U G 1 - 4

A supervised practicum in radiologic sciences administration and quality management.

Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions.

5489 Rad Sci Education Practicum

U G 1 - 4

A supervised practicum in radiologic sciences education.

Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions.

5589 Vascular Interventional Radiography Practicum

U G 1 - 4

Theory and clinical education in radiographic and therapeutic interventional procedures related to vascular structures and organ systems.

Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions.

Radiology

5680 Radiation Biology

U G 2

Effect of ionizing radiation in biological systems at the molecular, cellular, organ, organism, and community levels with specific emphasis on medical implications and radiation safety.

Prereq: Permission of instructor.

6813 Magnetic Resonance Spectroscopy and Imaging I **G M 3**
 Presentation of the basic principles of MRI/MRS, including basic MR physics, pulse sequences, adiabatic excitation, coil design, MR hardware, image formation, localized spectroscopy.
 Prereq: Grad standing, or permission of instructor. Cross-listed in BiomedE 6113 and Biophys 8813.

7193.10 Individual Studies in Radiobiology **G 1 - 6**
 Individual research study in Radiobiology.
 Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 18 completions. This course is graded S/U.

8999 Research in Radiology **G 1 - 12**
 Research for dissertation.
 Repeatable to a maximum of 12 cr hrs or 15 completions. This course is graded S/U.

Religious Studies

2102.01 Literature and Religion **U 3**
 Study of relationships between religion and secular literature; analysis of religious and spiritual elements of literature and film of diverse cultures and historical periods.
 Prereq: English 1110 (110) or equiv. Not open to students with credit for 2102.01H, CompStd 2102.01 (202.01), or 2102.01H (202.01H). GE lit and diversity global studies course.

2102.02 Comparative Sacred Texts **U 3**
 Introduction to religious views of the universe, the supernatural, social organization, ethics, etc., through sacred texts (oral and written) of diverse cultures and historical periods.
 Prereq: English 1110 (110), or equiv. Not open to students with credit CompStd 2102.02 (202.02). GE lit and diversity global studies course.

2222 From Ishtar to Christ: The History of Mediterranean Religions **U 3**
 This course introduces students to the historical facts of 10 ancient Mediterranean religions in a context that trains them to study religions more generally. It also teaches them how two of the most prominent religions today—Judaism and Christianity—succeeded within a richly diverse religious marketplace, and how religions respond to their political, economic, and social environments.
 Prereq: Not open to students with credit for Clas 2222. GE historical study course. Cross-listed in Clas.

2370 Introduction to Comparative Religion **U 3**
 Introduction to the academic study of religion through comparison among major traditions (Judaism, Christianity, Islam, Hinduism, Buddhism, etc.) and smaller communities.
 Prereq: English 1110 (110) or equiv. Not open to students with credit for 2370H or CompStd 2370H (270H) or 2370 (270). GE cultures and ideas and diversity global studies course.

2370H Introduction to Comparative Religion **U 3**
 Introduction to the academic study of religion through comparison among major traditions (Judaism, Christianity, Islam, Hinduism, Buddhism, etc.) and smaller communities.
 Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 2370, CompStd 2370 (270), or 2370H (270H). GE cultures and ideas and diversity global studies course.

2670 Science and Religion **U 3**
 A philosophical examination of the relationship between science and religion; concentration on issues regarding the creation of the universe and the origins of life.
 Prereq: Not open to students with credit for CompStd 2670 or Philos 2670 or 2860. GE cultures and ideas course. Cross-listed in Philos.

3210 The Jewish Mystical Tradition **U 3**
 The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience.
 Prereq: English 1110 (110) or equiv. Not open to students with credit for 2210 (376), 2210H, 3210H, CompStd 2210 (376), 2210H (376H), Hebrew 2210 (376), 3210, 2210H (376H), 3210H, JewshSt 2210, 3210, 2210H, or 3210H. GE cultures and ideas and diversity global studies course. Cross-listed in Hebrew and JewshSt.

3210H The Jewish Mystical Tradition **U 3**
 The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience.
 Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 2210, 3210, 2210H, CompStd 2210 (376), 2210H (376H), Hebrew 2210 (376), 3210, 2210H (376H), 3210H, JewshSt 2210, 3210, 2210H, or 3210H. GE cultures and ideas and diversity global studies course. Cross-listed in Hebrew and JewshSt.

3671 Religions of India **U 3**
 History and structure of South Asian religions with attention to myth, ritual, art, philosophy, and social stratification. 2370 (270) recommended.
 Prereq: English 1110 (110) or equiv. Not open to students with credit for CompStd 3671 (321) or RelStds 321.

3672 Native American Religions **U 3**
 Comparative survey of indigenous religions of North America; patterns and diversity in religious experience, cosmologies, myths, rituals, social organizations, and sacred roles. 2370 (270) recommended.
 Prereq: English 1110 (110) or equiv. Not open to students with credit for CompStd 3672 (322) or RelStds 322. GE cultures and ideas course and diversity soc div in the US course.

3673 The Buddhist Tradition **U 3**
 History and structure of Buddhism from founding to present in South, Southeast, and East Asia; emphasis on rituals, beliefs, and local and regional variations. 2370 (270) recommended.
 Prereq: Not open to students with credit for CompStd 3673 (323), EALL 3223 (323), or RelStds 323. Cross-listed in EALL 3223.

3679 Popular Culture and World Religion **U 3**
 The representation of religion in visual culture, in the United States and around the world; the ways that religious traditions are represented or misrepresented; the ways religious traditions appropriate popular culture for their own purposes; new forms of religious practice and community that grow directly out of popular culture.
 Prereq: English 1110. GE VPA course.

3680 Religion and Law in Comparative Perspective **U 3**
 Comparative, interdisciplinary approach to studying religion and law. Drawing on concrete cases, historical studies, and theoretical literature, the course explores how the relationship between religion and law has been configured differently in different liberal democracies, such as the U.S., France, and Israel, and what this might mean for contemporary debates. Team-taught w/ faculty in History.
 Prereq: Not open to students with credit for History 3680. GE historical study and diversity global studies course. Cross-listed in History.

3877 Myth and Ritual **U 3**
 Ritual, myth, and literature: structural and thematic relationships.
 Prereq: One course in CompStd, or RelStds, or permission of instructor. Not open to students with credit for Religious Studies 4877 or CompStd 4877 (541).

3972 Theory and Method in the Study of Religion **U 3**
 Survey of contemporary theories and methods used in the academic study of religion.
 Prereq: 2370 (270) or 2370H (270H) or equiv. Not open to students with credit for RelStds 4972 or CompStd 4972 (520).

4873 Contemporary Religious Movements in Global Context **U 3**
 Examination of contemporary religious movements within the context of larger political, cultural, and economic processes, including post-colonialism, modernization, and globalization.
 Prereq: One course in CompStd, RelStds, or IntStds; or Grad standing; or permission of instructor. Not open to students with credit for CompStd 4873 (525) or IntStds 4873 (525). Cross-listed in IntStds.

4875 Gender, Sexuality, and Religion **U 3**
 Explores intersections of gender, sexuality and religion in comparative and cross-cultural contexts.
 Prereq: English 1110 (110) or equiv. Not open to students with credit for CompStd 4875 (515).

5871 The Japanese Religious Tradition **U G 3**
 A survey of the Japanese tradition, including Shinto, Buddhism, Taoism, New-Confucianism, and folk religion from the 6th century B.C.E. to the present.
 Prereq: Not open to students with credit for CompStd 5871 (641) or Japanse 5271 (641). Cross-listed in Japanse 5271.

Renewable Energy

2025T Solar Energy Systems **U 3**
 This course encompasses solar energy systems including the underlying principles and concepts, system components, common system configurations, siting, design, environmental considerations, economic analysis and grid integration.
 Prereq: 2010T. This course is available for EM credit.

2035T Wind Energy Systems **U 3**
 This course encompasses wind energy systems including the underlying principles and concepts, system components, common system configurations, siting, design, environmental considerations, economic analysis and grid integration.
 Prereq: 2010T. This course is available for EM credit.

Respiratory Therapy

4320 Components of Respiratory Health and Disease **U 4**
 A study of normal respiratory mechanisms, manifestations and treatment of respiratory diseases, their clinical courses with specific consideration for the basis of respiratory therapeutics.
 Prereq: Admission to RespThr.

4400 Basic Respiratory Care **U 5**
 Study and clinical application of theories, procedures, and equipment utilized in delivering, monitoring, and evaluating basic respiratory therapeutics to patients in the hospital setting.
 Prereq: Admission to RespThr.

4410 Introduction to Clinical Respiratory Care **U 4**
 An orientation to the profession, consideration of professional ethics, introduction to basic cardiopulmonary assessment and life support techniques, infection control, medical record, hospital environment, and role of the Respiratory Therapist.
 Prereq: Admission to RespThr.

394 Respiratory Therapy

4430 Evaluation of Respiratory Function U 5

Study of methods, instrumentation, standards and clinical applications of pulmonary function testing and arterial blood gas analysis with emphasis on quality assurance.
Prereq: Admission to RespThr.

4475 Mechanical Ventilation U 5

Study of various mechanical ventilators and artificial airways, with major emphasis placed on all aspects of the management of the patient-ventilator system.
Prereq: 4320, 4400, 4410, and 4430.

4489 Clinical Experience Phase I U 2

Clinical application of basic respiratory therapeutics, intensive respiratory care, and arterial blood gas analysis.
Prereq: 4320, 4400, 4410, and 4430.

4500 Respiratory Therapy for Special Populations U 5

Theories, procedures, and equipment applicable to the delivery of respiratory therapy to special populations, including the neonatal, pediatric, home care, sleep, community, rehabilitation, and long-term acute care patient.
Prereq: 4320, 4400, 4410, and 4430.

4515 Intensive Respiratory Care U 3

The etiology, manifestations, and treatment of respiratory failure including principles, techniques and equipment associated with advanced cardiopulmonary monitoring and cardiac life support.
Prereq: 4320, 4400, 4410, and 4430.

4589 Clinical Experience Phase II U 3 - 10

Clinical application of adult, neonatal, and pediatric intensive respiratory care; home, continuing, and long-term acute respiratory care; pulmonary rehabilitation; endotracheal intubation.
Prereq: 4475, 4489, 4500, and 4515.

4593 Individual Studies in Respiratory Therapy U 1 - 5

Guided study of topics or pursuit of individual experiences in respiratory therapy.
Prereq: 4689, 5525, and 5600. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

4689 Introduction to Advanced Clinical Practice Phase I U 2

Clinical education and experiences in respiratory therapy competency assurance, alternate care settings, and critical care.
Prereq: 4589. This course is graded S/U.

4789 Introduction to Advanced Clinical Practice Phase II U 5

Clinical education and experience in respiratory therapy education, administration of respiratory services, and areas of advanced professional practice.
Prereq: 4689, 5525, and 5600. This course is graded S/U.

4895 Seminar U 1 - 5

Conferences, group discussion, and presentations of selected topics.
Prereq: Admission to RespThr. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

5520 Issues in Respiratory Care U G 2

An analysis of current administrative, legal, regulatory, and professional issues which influence the administration of respiratory care services and therapists.
Prereq: 5525, 4689, and 5600, or permission of instructor.

5525 Teaching & Learning Respiratory Therapy U G 2

Principles and practice of teaching and learning in respiratory therapy. Various education roles and strategies of respiratory therapists in academic, community and clinical settings.
Prereq: 4589, or permission of instructor.

5600 Fundamentals of Respiratory Care Research U G 2

Survey of research problems, methods, and designs utilized in respiratory care, with emphasis on data collection, analysis, and presentation.
Prereq: 4589, or permission of instructor. Not open to students with credit for 593, 600, and AllMed 680.

Romance Linguistics

5051 Latin and the Romance Languages U G 3

Examines the socio-historical factors and the linguistic processes that contributed to the formation of the Romance languages and to their divergences. Course taught in English.
Prereq: Equivalent of 1103 in Italian, French, Spanish, Portuguese, Romanian, or Latin; or permission of instructor. Not open to students with credit for 692, French 692, Italian 5051 (692), or Clas 5051. Cross-listed in Clas and Italian.

8193 Individual Studies G 1 - 3

Individual Studies.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is progress graded (S/U).

8194 Group Studies G 1 - 9

Investigation of minor problems in the various fields of Romance linguistics.
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

8999 Research in Romance Linguistics G 1 - 9

Research for thesis purposes only.
Repeatable to a maximum of 99 cr hrs. This course is progress graded (S/U).

Romanian

1101 Elementary Romanian I U 4

Introduction to Romanian; development of speaking, listening, reading, and writing skills in cultural context. Closed to native speakers of this language.
Prereq: Not open to students with credit for 101, or 2 or more years of study in this language in high school, except by permission of department. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102 Elementary Romanian II U 4

Continued development of speaking, listening, reading, and writing skills in cultural context. Closed to native speakers of this language.
Prereq: 1101 (101). Not open to students with credit for 102. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103 Intermediate Romanian I U 4

Continued development of speaking, listening, reading, and writing skills in cultural context. Closed to native speakers of this language.
Prereq: 1102 (102). Not open to students with credit for 104 or 111. This course is available for EM credit. GE for lang course.

1111 Intensive Intermediate Romanian U 8

Combination of the content of two semesters of Romanian to complete the presentation of the basic Romanian grammar and readings based on Romanian geography, history, and customs. Continued development of listening, speaking, reading and writing with an emphasis on oral and written skills; focus on functional topics and thematic vocabulary. Not open to native speakers or with 2+ yrs in high school.
Prereq: 1101. Not open to students with credit for 111 or with 4 credits of 1103. This course is available for EM credit. GE for lang course. FL Admis Cond course.

2104 Intermediate Romanian II U 4

Increasing functional ability in speaking, listening, reading, and writing practice; vocabulary-building; new grammar structures; start developing higher-level language skills in Romanian.
Prereq: 1103 (111) or 104. Not open to students with credit for 407, or native speakers of this language through regular course enrollment or EM credit.

Rural Sociology

1500 Introduction to Rural Sociology U 3

Principles of society, major social institutions, and social change; emphasizes social changes in rural life, rural organizations, population, and family living.
Au, Sp Sem. Prereq: Not open to students with credit for 105, Sociol 1101 (101), or 201. GE soc sci orgs and polities and diversity soc div in the US course.

3580 Social Groups in Developing Societies U 3

Contemporary struggles and experiences of rural social groups in the "Third World" in the context of development and globalization; emphasis on grassroots initiatives and resistance movements.
Au Sem. Prereq: 3 cr hrs in RurlSoc, Sociol, or a related social science, or permission of instructor. Not open to students with credit for 378. GE soc sci indivs and groups and diversity global studies course.

4500 Community Development in Practice U 3

The application of an asset-based community development framework to address environmental, economic, and social issues at the community-level in the United States.
Sp Sem. Prereq: ENR 3500 or permission of instructor. Not open to students with credit for 542.

5500 Diffusion of Innovations U G 3

Examine the sociological processes involved in disseminating new ideas and technologies in U.S. and developing nations. Assess the consequences of new technologies for communities, households, and individuals particularly in rural contexts.
Au Sem. Prereq: Not open to students with credit for 562 or 662.

5520 Amish Society U G 3

Analysis of the historical, social, religious, economic and cultural dimensions of the Amish.
Au Sem. Prereq: Not open to students with credit for 622.

5530 Sociology of Agriculture and Food Systems U G 3

Overview of sociological theory and research related to agricultural change and food system development, focusing on individual, family, farm, community and environmental impacts.
Au Sem. Prereq: 6 units in RurlSoc, Sociol, or related Social Sciences, or Grad standing, or permission of instructor. Not open to students with credit for 733.

5540 Population, Place and Environment U G 3

Focuses on demographic issues in rural settings and related environmental issues, with an emphasis on population change and migration in the context of conflicts, disaster, and resource based development.
Prereq: 6-9 cr hrs taken in RurlSoc, Sociol, or related social science, or Grad standing. Not open to students with credit for 744.

5580 Assessing Human and Social Impacts of Change	U G	3
Examine the social and human impact of change on groups and communities.		
Prereq: Not open to students with credit for 688.		
5797 Study at a Foreign Institution		
	U G	1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.		
Au, Sp, Su Sems. Prereq: Permission of dept chairperson. Not open to students with credit for 697. Repeatable to a maximum of 30 cr hrs or 2 completions. This course is progress graded.		
6500 Rural Poverty	G	3
Evaluation of the factors which create and maintain poverty and inequality, with focus on the rural U.S., developing nations, and the comparative analysis of spatial inequalities.		
* Sp Sem (odd years). Prereq: 15 cr hrs in RurSoc or related social sciences, or Grad standing. Not open to students with credit for 666.		
7550 Rural Community Development in Theory and Practice	G	3
Theoretical foundations of rural community development; contemporary community development issues; change processes, strategies, and practices.		
* Sp Sem. (odd years). Prereq: Grad standing. Not open to students with credit for 888.		
7560 Environmental Sociology	G	3
Sociological approaches to the study of environmental policy. Analysis of major issues relating to the use and abuse of natural resources and pollution.		
Prereq: Grad standing. Not open to students with credit for 766.		
7600 Concepts and Theories in Rural Sociology	G	3
Examines the sociological significance of "rurality" and the conceptual perspectives applied to major substantive areas in rural sociology, such as community, environment, and agriculture.		
* Au Sem (odd years). Prereq: Grad standing. Not open to students with credit for 742.		
8500 Development Sociology in Theory and Practice	G	3
Overview of sociological principles, theories and research in the evolution of international development and globalization practices, objectives, and policies. Contemporary issues in development and globalization.		
* Sp Sem (even years). Prereq: Grad standing. Not open to students with credit for 892.		

Russian

1101.01 1st-Year Russian I (Classroom Track)	U	4
Introduction to Russian: development of skills in speaking, understanding, reading, and writing contemporary Russian in a cultural context. Not open to native speakers or to students with 2 or more years of high school study.		
Prereq: Not open to students with credit for 101.01, or 5 credits of 101.51, or 4 credits of 1101.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
1101.51 Elementary Russian I (Self-Paced)		
	U	1 - 4
Introduction to Russian: development of skills in speaking, understanding, reading, and writing in cultural context. Students register for 1-4 cr hrs. Progress is sequential from one cr to next. 80% is required to advance. Not open to native speakers or to students with 2 or more years of high school study.		
Prereq: Not open to students with credit for 1101.01 or 101.01 or 5 credits of 101.51. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
1102.01 Elementary Russian II (Classroom Track)	U	4
Continued development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of this language through regular course enrollment or EM credit.		
Prereq: 1101.01 or 4 cr hrs of 1101.51, or 101.01 or 101.51. Not open to students with credit for 102.01 or 5 credits of 102.51, or 4 credits of 1102.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
1102.51 Elementary Russian II (Self-Paced)	U	1 - 4
Continued development of speaking, listening, reading, and writing skills in cultural context. Students register for 1-4 cr hrs. Progress is sequential from one cr hr to next. 80% is required to advance. Not open to native speakers of this language through regular course enrollment or EM credit.		
Prereq: 1101.01 or 4 cr hrs of 1101.51, or 101.01 or 5 cr of 101.51. Not open to students with credit for 1102.01, 102.01, or 5 credits of 102.51. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.		
1103.01 Intermediate Russian I (Classroom Track)	U	4
Continued development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of this language through regular course enrollment or EM credit.		
Prereq: 1102.01 or 4 cr of 1102.51, or 102.01 or 5 cr of 102.51. Not open to students with credit for 104.01, 104.51 or 4 cr hrs of 1103.51 or. This course is available for EM credit. GE for lang course.		

1103.51 Intermediate Russian I (Self-Paced)	U	1 - 4
Continued development of speaking, listening, reading, and writing skills in cultural context. Students register for 1-4 cr hrs during sem. Progress is sequential from one cr hr to the next. 80% is required to advance. Not open to native speakers of this language through regular course enrollment or EM credit.		
Prereq: 1102.01 or 4 cr of 1102.51, or 102.01 or 5 cr of 102.51. Not open to students with credit for 1103.01, 104.01, or with 5 credits of 104.51. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course.		
1103.99 Intermediate Russian I (Online)		
	U	4
Continued development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of this language through regular course enrollment or EM credit.		
Prereq: 1102.01 or 4 cr hrs of 1102.51. Not open to students with credit for 1103.01 or 4 cr hrs of 1103.51. This course is available for EM credit. GE for lang course.		
1133 Intermediate Russian for Heritage Speakers	U	4
This course is designed for students who have a Russian background, hear and/or speak (to a different degree) Russian at home and want to learn to read and write in Russian, or to develop their speaking and literacy skills through formal Russian language study. Students must take a Russian placement exam, and test out of Russian 1101 and 1102.		
Prereq: Not open to students with credit for Russian 1103.01. GE for lang course.		
2104.01 Intermediate Russian II (Classroom Track)	U	4
Increasing functional ability in speaking, listening, reading, and writing practice, vocabulary-building; new grammar structures; start developing higher-level language skills in Russian. Not open to native speakers of this language through regular course enrollment or EM credit.		
Prereq: 1103.01 or 4 credits of 1103.51, or 104.01 or 5 credits of 104.51. Not open to students with credit for 402.01, 407.01, 4 cr hrs for 2104.51, or 5 cr hrs for 402.51 or 407.51.		
2104.51 Intermediate Russian II (Self-Paced)	U	1 - 4
Increasing ability in speaking, listening, reading, and writing; vocabulary-building; new grammar; developing higher skills. Students register for 1-4 cr hrs during sem. Progress is sequential from one cr hr to next. 80% is required to advance. Not open to native speakers of this language through regular course enrollment or EM credit.		
Prereq: 1103.01 or 4 credits of 1103.51, or 104.01 or 5 credits of 104.51. Not open to students with credit for 2104.01, 407.01, or for 5 credits of 407.51. Repeatable to a maximum of 4 cr hrs or 4 completions.		
2144 Intermediate Russian for Heritage Speakers II	U	4
This is the second course designed for students who have a Russian background, hear and/or speak (to a different degree) Russian at home and want to learn to read and write in Russian, or to develop their speaking and literacy skills through formal Russian language study.		
Prereq: 1133.		
2250 Masterpieces of Russian Literature	U	3
Reading and analysis of great works of Russian literature from the 19th century to the present by authors such as Pushkin, Turgenev, Dostoevsky, Tolstoy, Chekhov, Akhmatova, Bulgakov, Solzhenitsyn, and Ulitskaya. Taught in English.		
Prereq: Not open to students with credit for 2250H (250H and 251H), 250, or 251. GE lit and diversity global studies course.		
2250H Honors Masterpieces of Russian Literature	U	3
Reading great works of Russian literature (including Pushkin, Turgenev, Dostoevsky, Tolstoy, Chekhov, Bunin, Akhmatova, Solzhenitsyn, Ulitskaya); developing analytical writing & discussion skills. Taught in English.		
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2250 (250 and 251), 250H, or 251H. GE lit and diversity global studies course.		
2335.01 Magnificence, Mayhem, and Mafia: Russian Culture	U	3
Russian culture from its foundations to the 21st century through analysis of literature, film, music, visual arts, beliefs, and customs. Taught in English.		
Prereq: Not open to students with credit for 2355, 2335.99, 135, or 235. GE cultures and ideas and diversity global studies course.		
2335.99 Magnificence, Mayhem, and Mafia: Russian Culture	U	3
Russian culture from its foundations to the 21st century through analysis of literature, film, music, visual arts, beliefs, and customs. Taught in English. Offered 100% on-line.		
Prereq: Not open to students with credit for 2335, 2335.01, 135, or 235. GE cultures and ideas & diversity global studies course.		
2345 Russian Fairy Tales and Folklore	U	3
Examines four categories of texts, both verbal and visual: (1) a survey of Russian demonology; (2) a large selection of the best-known Russian fairy tales.; (3) scholarly articles analyzing the differences between folklore and literature; and (4) visual materials (film, paintings, graphics, and handicrafts) and music inspired by Russian fairy tales. Taught in English.		
GE cultures and ideas and diversity global studies course.		
2355.99 Russians and their Vodka: Deconstructing Myths	U	1
Interdisciplinary study of vodka and its role in Russian history, culture, and politics. Course focuses first on vodka production and its uses, then on its influence on Russian culture in present times and key historical periods. Readings alternate with film, documentaries, and advertisements as class material. Offered totally online.		

396 Russian

3101 Third-Year Russian I: Contemporary Russian in Cultural and Literary Contexts U 4

Further develop speaking, listening, reading, and writing skills and grammar competence while discussing topics of contemporary Russian life and literature.

Prereq: 2104.01 or 4 cr hrs of 2104.51, or 402.01 or 407.01, or 5 cr hrs of 402.51 or 407.51, or permission of instructor. Not open to students with credit for 501 or 560.

3102 Third-Year Russian II: Current Events through the Russian Media U 4

Introduction to the Russian mass media with an emphasis on current events; further development of speaking, listening, reading, and writing skills and grammar competence.

Prereq: 3101 (501 and 502), or permission of instructor. Not open to students with credit for 503 or 562.

3121 Advanced Reading Russian I Self-Paced U 1 - 3

Developing reading skills and strategies from a variety of authentic Russian sources, with special emphasis on contemporary materials

Prereq: 2104.01 (407.01) or 2104.51 (407.51), or permission of instructor. Not open to students with credit for 580.51 or 581.51. Repeatable to a maximum of 3 cr hrs.

3122 Advanced Reading Russian II Self-Paced U 1 - 3

Further development of reading skills & strategies from authentic Russian sources, with emphasis on contemporary materials. Students register for 1-4 cr hrs during sem. Progress is sequential from one cr hr to next; 80% is required to advance.

Prereq: 3121 (581.51), or permission of instructor. Not open to students with credit for 582.51. Repeatable to a maximum of 3 cr hrs.

3140 Russian Conversation U 1

Maintaining and further developing conversational skills in Russian at the intermediate level. Taught in Russian as round-table discussion.

Prereq: 2104.01 (402.01) or 2104.51 (402.51), or permission of instructor. Repeatable to a maximum of 2 cr hrs.

3350 Russian Culture and Politics U 3

Interdisciplinary approach to reading and perceiving Russian political culture today. The class expands the meaning of culture to include political discourse, political practices, and current societal debates. Taught in English.

Prereq: Not open to students with credit for 550.

3460 Modern Russian Experience through Film U 3

Exploration of some of the most revealing hopes and disappointments of Russian people presented in internationally acclaimed Russian films. Taught in English.

Prereq: Not open to students with credit for 360. GE VPA and diversity global studies course.

3470 Anna Karenina Goes to Hollywood: Tolstoy's Novel in Film and Popular Culture U 3

This course explores Tolstoy's Anna Karenina in relation to popular American culture. The course will consist of two parts: in the first half, we will read and discuss Anna Karenina, and we will then examine films and other popular works based on the novel.

GE VPA and diversity global studies course.

3530 Russian Cuisine in History, Literature and Culture U 3

Explores Russian cuisine: its history and its role in Russian literature and culture. We will use a variety of cookbooks and cultural histories as our textbooks, and we will read selections from classical Russian literature to see how writers incorporate ideas of food and cuisine into their works. We will also read critical articles about the relationship between food and culture.

GE cultures and ideas course.

3570 CLLC Radio U 3

Student partners prepare 3 target language broadcasts, each 1 hour in length. Broadcasts stream live over the Internet, then become podcast for public use. Student "DJs" conduct target language research on radio broadcast history and at least 15 thematic topics and related music that interests them. Students choose their music and content with approval and guidelines, then produce scripts.

Prereq: Permission of instructor.

4101 Advanced Russian I U 3

Speaking, listening, reading and writing practice in Russian at the advanced level, with focus on Russian films from the 1930s to the present.

Prereq: 3102 or 503, or permission of instructor. Not open to students with credit for 601.

4102 Advanced Russian II U 3

Continuation of Russian 4101: speaking, listening, reading, and writing practice in Russian at the advanced level, with a focus on Russian culture and national identity.

Prereq: 4101 (601) or 609, or permission of instructor. Not open to students with credit for 610.

4135 Practical Russian Pronunciation U 3

Russian phonetics, including terminology, transcription, practical exercises designed to improve pronunciation, and problems of teaching pronunciation. Taught in Russian. Not open to native speakers of Russian.

Prereq: 2104, or 30 or hrs in Russian, or permission of instructor. Not open to students with credit for 635.

4191 Internship for Russian Majors U 1 - 3

Intensive work experience or research assistance relating to Russia or Russian, conducted under the supervision of a faculty member.

Prereq: Enrollment in major or minor in Russian, and permission of the Undergraduate Studies Coordinator. Repeatable to a maximum of 6 cr hrs and 2 completions. This course is graded S/U.

4220 Love and Death in Russian Literature and Film U 3

Analysis of major works in nineteenth-century Russian literature (from the Golden Age and Realism), and major themes such as lost love in the Russian novel. Taught in English.

Prereq: Not open to students with credit for 520 and 521.

4221 Revolution and Restoration in Russian Literature U 3

Starting with Stalinism, this survey course presents lectures-discussions on socialist-realist, dissident, GULAG, Thaw, "Stagnation," post-Gorbachev, and restoration literature, as well as emigre works. Taught in English.

Prereq: Not open to students with credit for 522 or 523.

4575 Capstone Course for Russian Majors U 3

Junior-senior seminar explores issues of Russian language and literature, focusing on reading in Russian and on honing Russian and English oral and writing skills. Required for Russian major. Taught in Russian and English.

Prereq: English 2367 or equiv. Repeatable to a maximum of 9 cr hrs.

4798 Study Trip U 3 - 6

Short-term study abroad directed by a faculty member as a supplement to a course in Russian literature or culture. Students pay OSU fees, any fees in excess of tuition, travel & subsistence costs.

Prereq: Permission of dept chairperson and Office of International Affairs. Repeatable to a maximum of 12 cr hrs or 2 completions. This course is graded S/U.

5101 Adv Russian III U G 3

Continuation of Russian 4102. Development of speaking, listening, reading, & writing skills at the advanced level, with a focus on a specific theme of interest for area specialists (e.g., history, literature, culture, linguistics, health issues).

Prereq: 4102, or permission of instructor. Not open to students with credit for 711. Repeatable to a maximum of 6 cr hrs.

5102 Advanced Russian IV U G 3

Continuation of Russian 5101. Development of speaking, listening, reading, & writing skills at the advanced level, with a focus on a specific theme of interest for area specialists (e.g., history, literature, culture, linguistics, health issues).

Prereq: 5101, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

5193 Individual Studies U G 1 - 9

Individual study on topic relating to Russian culture, literature, or language under the supervision of a faculty member.

Prereq: Permission of department chairperson. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.

5194 Group Studies U G 1 - 3

Group Studies in Slavic and East European languages and cultures.

Repeatable to a maximum of 6 cr hrs or 2 completions.

5225 Russian Emigre Literature U G 3

Analysis of the three "waves" of Russian emigration -- post-Revolutionary, post-WWII, and the so-called "third wave" in the 1970s and 80s through the poetry, fiction, and memoirs by such writers as: Ivan Bunin, Vladislav Khodasevich, Vladimir Nabokov, Nina Berberova, Sergei Dovlatov, Vasily Aksyonov, and Joseph Brodsky.

Prereq: English 1110 or equiv, or any 4000-level Russian literature, culture or linguistics course.

5250.01 The Russian Writer U G 3 - 4

Close analysis of the major works of an individual Russian writer, such as Vladimir Nabokov, Nikolai Gogol, or Mikhail Bulgakov. Taught in English. Repeatable with change of content.

Prereq: Repeatable to a maximum of 12 cr hrs or 3 completions.

5250.02 The Russian Writer - Dostoevsky U G 3 - 4

Close Analysis of the major works of Fyodor Dostoevsky.

5250.03 The Russian Writer: Chekhov U G 4

This course will cover the work of Anton Chekhov, from early satirical stories through his major stories and plays, and will make forays into other genres, particularly letters. Students will read the texts closely, considering their social, political, philosophical, and aesthetic contexts.

Prereq: Not open to students with credit for 5250 (Au15, Brintlinger).

5250.04 The Russian Writer: Nabokov U G 3

This course will cover several of Vladimir Nabokov's major works in their cultural, biographical, philosophical, and aesthetic context. Some students will be more familiar with the Russian literary tradition on which Nabokov richly draws, and others will be less familiar. Either is completely fine, as sufficient context will be provided in class and in optional background readings.

5530.01 Madness and Power in Russia

U G 3

Discussions of politics and power as related to madness; manifestations of insanity in Russian literary and film texts will accompany examination of the cultural, philosophical, legal, and historical context. Taught in Russian.

Prereq: 4102 or equiv, or permission of instructor. Not open to students with credit for 5530.02.

5530.02 Madness and Power in Russia

U G 3

This English-language version of Russian 5530.01 facilitates study and research of the important trope of madness in Russian culture for advanced undergraduates and graduate students. Primary readings, discussion and coursework will be offered in English, although parallel and additional readings in Russian will be available for students with advanced language skills.

Prereq: Not open to students with credit for 5530.01.

5601 Structure of Russian I

U G 3

Systematic synchronic description of the structure of Contemporary Standard Russian, focusing on phonetics, phonology, and morphology, and associated theoretical issues. Taught in English.

Prereq: 3102, or Grad standing in Slavic; or permission of instructor. Not open to students with credit for 6601 (640).

5630 Russian Translation: Theory, Practice, and the Profession

U G 3

Theory and practice of translating Russian literary, cultural, political, scientific, and business texts into English. Recommended prereq: 2250.

Prereq: 3102 or 3122.

5701 History of Russian I

U G 3

Survey of the most important developments in the Russian writing system, phonology, morphology, and syntax from Old East Slavic to modern times; Russian among the Slavic languages; main methodologies in historical linguistics.

Prereq: 3102 or 503, or Grad standing, or permission of instructor. Not open to students with credit for 720 or 6701.

5797 Study at a Foreign Institution

U G 1 - 9

Opportunity to study at Russian educational institution and receive OSU credit. Students pay OSU fees, any fees in excess of tuition, travel & subsistence costs.

Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 9 completions.

6171 Basic Reading Russian for Graduate Students

G 3

Russian alphabet, basic vocabulary, and basic elements of grammar for graduate students who need to develop reading skills for professional research. Taught in self-paced format. Continued by Russian 6172.

Prereq: Grad standing. Not open to students with credit for 571.

6172 Reading Russian for Research

G 3

Continuation of Russian 6171: further development of reading skills, vocabulary, and grammar for graduate students who need to read Russian for professional research. Taught in self-paced format.

Prereq: 6171 (571), and Grad standing. Not open to students with credit for 572 or 573.

6252 Issues in 19th-Century Russian Literature

G 3

Literature of the Golden Age and Realist periods in cultural and political context. Good reading ability in Russian recommended.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 750 or 751. Repeatable to a maximum of 6 cr hrs.

6253 Issues in 20th- and 21st-Century Russian Literature

G 3

Silver Age, Soviet, emigre, or post-Soviet literature in cultural and political context. Good reading ability in Russian recommended.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 752 or 754. Repeatable to a maximum of 6 cr hrs.

6254 Russian Literary Genres

G 3

Genres of Russian literature: e.g., poetry, drama, novel, short story, literary essay. Time periods, authors, and themes are variable. Good ability to read Russian recommended.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 653, 723, or 851. Repeatable to a maximum of 6 cr hrs.

7150 Language Maintenance and Professionalization

G 1 - 2

Opportunity for graduate students to maintain/enhance their Russian language abilities and improve their lesson planning and teaching skills in Russian language classes.

Prereq: Grad standing. Repeatable to a maximum of 16 cr hrs or 8 completions. This course is graded S/U.

8150 Graduate Student Teaching Apprenticeship

G 1

Graduate students will work with a faculty member who is teaching an undergraduate, non-language course. Students will work with the faculty member to develop skills in creating lesson plans and reading lists, stimulating productive class discussions, assigning appropriate workloads, and grading.

Prereq: Grad standing. Repeatable to a maximum of 4 cr hrs.

8193 Individual Studies

G 1 - 3

Individual studies under faculty supervision in Russian literature, film, culture, or linguistics.

Prereq: Grad standing, and permission of the dept chairperson. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

8550 Seminar in Russian Literature, Film, or Cultural Studies

G 3

Variable-topic seminar on issues in Russian literature, film, or culture. Repeatable for credit with change of topic.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 24 cr hrs.

Sanskrit**5902 Elementary Sanskrit**

U G 3

Introduction to Indo-European, Indic, and Sanskrit; reading of introductory texts.

Prereq: Not open to students with credit for Sanskrit 621.

5903 Intermediate Sanskrit

U G 1 - 3

Reading of classical Sanskrit texts.

Prereq: 5902 (621).

5904 Vedic Sanskrit

U G 1 - 3

This course involves a survey of Vedic Sanskrit grammar, especially in comparison with Classical Sanskrit grammar, and consideration of Vedi poetic metrics, in conjunction with reading of actual hymns of the Rigveda.

Prereq: 5903 (Sanskrit 622) or equiv. Repeatable to a maximum of 12 cr hrs or 4 completions.

5905 Sanskrit Reading Group

U G 1 - 3

Presents opportunities for further reading of Classical or Vedic Sanskrit texts to allow students to maintain and enhance their command of Sanskrit.

Prereq: 5902, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.

Scandinavian**3350 Norse Mythology and Medieval Culture**

U 3

The myths of the Old Norse gods and the worldview and beliefs of pagan Scandinavia.

Prereq: Not open to students with credit for Scandnav 222. GE lit and diversity global studies course.

4150 Reading the Scandinavian Languages

U 3

Fundamentals of grammar of the Scandinavian languages for research purposes in the humanities, sciences, and social and behavioral sciences.

Prereq: Not open to students with credit for 571.

5150 Old Norse

U G 3

Introduction to the grammar of Old Norse-Icelandic literature. Brief overview of Old Norse Literature and the context of its production.

Prereq: Not open to students with credit for Scandnav 710.

5151 Variable Topics in Scandinavian Studies

U G 3

Investigation of various given topics in Scandinavian studies.

Prereq: Permission of instructor (for undergraduates). Repeatable to a maximum of 12 cr hrs.

5193 Individual Studies

U G 2 - 5

Individual investigation of minor problems of Scandinavian languages or literatures.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions. This course is graded S/U.

5251 The Icelandic Saga

U G 3

Introduction to the Icelandic saga, the greatest vernacular prose literature of medieval Europe.

Taught in English.

Prereq: Not open to students with credit for 513. GE lit course.

Scholars, University**1100 Scholars Seminar**

U 1/2 - 2

Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to Scholars program theme; students rights, responsibilities, and expectations; overview of relevant majors and careers.

Prereq: Scholars status.

1100.01 Advocates for Communities and Education Scholars Seminar

U 1/2 - 2

Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to the Scholars program theme; students rights, responsibilities, and expectations; overview of relevant majors and careers.

Prereq: Scholar status.

1100.02 Architecture, Landscape, and City Scholars Seminar

U 1/2 - 2

Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to the Scholars program theme; students rights, responsibilities, and expectations; overview of relevant majors and careers.

Prereq: Scholar status.

398 Scholars, University

1100.03 Biological Sciences Scholars Seminar U ½ - 2

Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to the Scholars program theme; students rights, responsibilities, and expectations; overview of relevant majors and careers.

Prereq: Scholar status.

1100.04 Health Sciences Scholars Seminar U ½ - 2

Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to the Scholars program theme; students rights, responsibilities, and expectations; overview of relevant majors and careers.

Prereq: Scholar status.

1100.05 Innovation, Creativity, and Entrepreneurship Scholars Seminar U ½ - 2

Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to the Scholars program theme; students rights, responsibilities, and expectations; overview of relevant majors and careers.

Prereq: Scholar status.

1100.06 International Affairs Scholars Seminar U ½ - 2

Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to the Scholars program theme; students rights, responsibilities, and expectations; overview of relevant majors and careers.

Prereq: Scholar status.

1100.07 Media, Marketing, and Communications Scholars Seminar U ½ - 2

Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to the Scholars program theme; students rights, responsibilities, and expectations; overview of relevant majors and careers.

Prereq: Scholar status.

1100.08 Mount Leadership Society Scholars Seminar U ½ - 2

Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to the Scholars program theme; students rights, responsibilities, and expectations; overview of relevant majors and careers.

Prereq: Scholar status.

1100.09 Politics, Society, and Law Scholars Seminar U ½ - 2

Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to the Scholars program theme; students rights, responsibilities, and expectations; overview of relevant majors and careers.

Prereq: Scholar status.

1100.10 STEM Exploration and Engagement Scholars Seminar U ½ - 2

Scholars Program academic and co-curricular requirements and expectations; University procedures relative to the Scholars experience; resources and opportunities related to the Scholars program theme; students rights, responsibilities, and expectations; overview of relevant majors and careers.

Prereq: Scholar status.

2294 Group Studies U 1 - 3

Special topics at an introductory level. Arr.
Prereq: Scholars standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

Sexuality Studies

2214 Introduction to Sexuality Studies U 3

Provides an introduction to sexuality studies through an interdisciplinary approach. To apply the knowledge learned, this course requires a fieldwork component.
Prereq: Not open to students with credit for CompStd 2214 (214) or EduPAES 214. GE diversity soc div in the US course. Cross-listed in CompStd.

4998 Undergraduate Research U 1 - 4

Undergraduate research or creative project in variable topics related to Sexuality Studies.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4998H Undergraduate Honors Research U 1 - 4

Undergraduate honors student research and/or creative project in variable topics.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4999 Undergraduate Research: Thesis U 1 - 4

A program of reading arranged for each student, with individual conferences, progress reports, and thesis.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

4999H Honors Thesis Research U 1 - 4

A program of reading arranged for each student, with individual conferences, progress reports, and honors thesis.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

5191 Internship U G 1 - 3

Workplace experience requiring writing and/or research. A maximum of 3 credit hours can count toward the Sexuality Studies major, minor, or GIS.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5193 Individual Studies U G 1 - 3

Students may register for individual directed study under this number for work not typically offered in courses.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5194 Group Studies U G 1 - 3

Group studies. Topic varies according to instructor.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

5620 Sexuality and Violence U G 3

Examines the relationship of sexuality and violence. Possible contexts include war, bullying, sexual assault and rape, intimate partner violence, sexual trafficking, anti-GLBT violence.
Prereq: Jr standing or above, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

7100 Introduction to Graduate Study in Sexuality Studies G 3

An interdisciplinary survey of the field of Sexuality Studies.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsSci 7100 (710).

Slavic Languages and Literatures

2230 Vampires, Monstrosity, and Evil: From Slavic Myth to Twilight U 3

Changing approaches to evil as embodied in vampires in East European folk belief & European & American pop culture; function of vampire & monster tales in cultural context, including peasant world & West from Enlightenment to now. Taught in English.
Prereq: Not open to students with credit for 130. GE cultures and ideas course, GE diversity global studies course.

2345 Introduction to Slavic and East European Literature and Culture U 3

Literature of a selected Slavic or East European country or countries in cultural and historical context; may include film, drama, art, music, and other media.
Taught in English. May be repeated with topic change.
Prereq: Not open to students with credit for 245 except by permission of instructor. Repeatable to a maximum of 9 cr hrs. GE lit course, GE diversity global studies course.

2367 East European Immigrant Experience in America U 3

Experiences of East European immigrants; assimilation vs. multiculturalism, American Dream, stereotypes, identity formation; development of written & oral communication skills. Taught in English.
Prereq: Level 1 writing course (1110), or English 110 or 111 with permission of instructor; Soph standing. Not open to students with credit for 367. GE writing and comm course: level 2, and diversity soc div in the US course.

2797.02 Central European Study Abroad U 3

Course for Gateway Hungary Program (May Session). Introduction to history, geography, and politics of Hungary and other Cen. Eur. countries, including Poland, Czech Republic, and Slovakia. On-site study of urban culture and development in Budapest and Warsaw; multimedia project in collaboration with Hungarian and Polish university students. No prior knowledge of Hungary or Cen. Europe required.
GE diversity global studies and education abroad course.

3310 Science Fiction: East vs. West U 3

Slavic, American, and British sci-fi on page and screen as reflection of major cultural concerns: progress, utopia, human perfectibility, limits of science and knowledge, gender, identity. Taught in English.
Prereq: Not open to students with credit for 3320 or WGSSt 3310. GE VPA and diversity global studies course. Cross-listed in WGSSt.

3333 The Soviet Space Age U 3

Exploration of Space Age as a technological/cultural phenomenon, focusing on the Soviet period and the Space Race, in historical context and in a comparative perspective. Taught in English.
GE cultures and ideas and diversity global studies course.

3360 Screening Minorities: Representations of the Other in Slavic Film U 3

Film representations of ethnic and religious others in East European cinema. Taught in English.
Prereq: Not open to students with credit for 360. GE VPA course.

Slavic Languages and Literatures 399

3800 Bilingualism: Life in Two Worlds

U 3

Exploration of multifaceted aspects of bilingual individuals: reasons to become bilingual, cognitive & social advantages of bilingualism, attitudes to people with accents, personality & bilingualism. No prior knowledge of linguistics is required.
GE soc sci indivs and groups course.

4520H Slavic and East European Cities

U 3

Literary and cultural analysis of a city in East Central, Southeastern, or Eastern Europe (e.g., Sarajevo, Budapest, Prague, Krakow) as an urban space, using sources from many periods and cultures. Repeatable with change of topic. Taught in English.
Prereq: Honors standing, and English 1110 or equiv, or permission of the instructor. Not open to students with credit for 520.01H, except by permission of instructor. Repeatable to a maximum of 6 cr hrs.

4560H Cinderella's Fantasy: Gender and Women in Western and Eastern Europe

U 3

Discussion of the complementary nature of feminists' notions in Western and Eastern European societies and cultures via literature and film. Taught in English; films have English subtitles.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for 583H.

4597 Politics of Language in Southeast Europe

U 3

Social/political import of language in Balkans and neighboring countries; role of language in ethnic identities; manipulation of language to shape political and social structures. Taught in English.

Prereq: Jr or Sr standing. GE diversity global studies and cross-disciplinary seminar course.

4798 Study Trip

U 1 - 6

Short-term study abroad directed by a faculty member as a supplement to a course in Slavic and East European literature or culture. Students pay OSU fees, any fees in excess of tuition, travel & subsistence costs.

Prereq: Permission of dept chairperson and Office of International Affairs. Repeatable to a maximum of 12 cr hrs or 2 completions. This course is graded S/U.

4998 Undergraduate Supervised Project

U 1 - 3

Opportunity for undergraduate majors and minors to do non-thesis research or creative work (e.g., translations) under faculty supervision for credit.

Prereq: Major or minor status in one of dept's programs and permission of faculty member supervising the project and Undergraduate Studies Coordinator. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

4999 Undergraduate Thesis Research

U 1 - 3

Faculty-supervised undergraduate research on Russian, Slavic, East Central European, Southeast European, or East European language(s), literature(s), or culture(s), culminating in a thesis.

Prereq: Sr standing; permission of instructor under whose supervision the work is to be completed and department Undergraduate Studies Coordinator. Not open to students with credit for 783H. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

4999H Honors Undergraduate Research Thesis

U 1 - 3

Faculty-supervised honors research on Russian, Slavic, East Central European, Southeast European, or East European language(s), literature(s), or culture(s), culminating in a thesis. Prereq: Sr standing; a grade of A in at least half of the Slavic department courses taken and an average of B in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. Not open to students with credit for 783H. This course is graded S/U.

5193 Individual Studies

U G 1 - 6

Individual study on topic relating to Russian culture, literature, or language under the supervision of a faculty member.

Prereq: Permission of dept chairperson. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

5194 Group Studies

U G 1 - 6

Group Studies.

Repeatable to a maximum of 24 cr hrs or 4 completions.

5280 Slavic & East European Literature

U G 3

Masterpieces of Slavic and East European literatures, either in a comparative perspective or focusing on the literature of one country in its cultural context. Taught in English. Repeatable for credit with change of topic.

Prereq: Completion of GE in Literature or permission of instructor. Not open to students with credit for 519. Repeatable to a maximum of 6 cr hrs.

5450 Global Human Trafficking: Realities and Representations

U G 3

This course will introduce students to the development of human trafficking as it has been understood and represented by governments, policymakers, the media, and popular culture. The objective of this course is to scrutinize common understandings and representations of trafficking and to consider the advantages and disadvantages of such understandings and representations.

Prereq: Not open to students with credit for WGSST 5450. Cross-listed in WGSST.

5797 Study at a Foreign Institution

U G 1 - 9

Opportunity to study at an educational institution in a Slavic-speaking country and receive OSU credit. Students pay OSU fees, any fees in excess of tuition, travel & subsistence costs. Prereq: Permission of dept chairperson. Repeatable to a maximum of 36 cr hrs or 9 completions. This course is graded S/U.

6000 Slavic Literature, Film, and Cultural Studies Professionalization Forum

G 1

Biweekly colloquium for presentations and discussion of research by graduate students, faculty, and visiting scholars. Required for M.A. and Ph.D. degrees in Slavic Literatures and Cultures.

Prereq: Grad standing. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

6457 Film Theory, Gender, and National Identity in Slavic Cinema

G 3

Introduction to film theory and exploration of changes in national and gender identities during the 20th century as reflected in Slavic cinema. Taught in English.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 657.

6501 Introduction to Slavic and East European Studies

G 3

Proseminar on central topics, current research, and research methodology in the Slavic and East European area studies. Taught in English. Required for the M.A. program in the Center for Slavic and East European Studies.

Prereq: Grad standing or permission of instructor. Not open to students with credit for 700.

6600 Slavic Linguistics Professionalization Forum

G 1

Biweekly colloquium for presentations and discussion of research by graduate students, faculty, and visiting scholars. Required for M.A. and Ph.D. degrees in Slavic Linguistics.

Prereq: Grad standing. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

6625 Old Church Slavonic

G 3

Introduction to the grammar of Old Church Slavonic, with readings in authentic medieval Slavic texts. Taught in English. Prior knowledge of a Slavic language not required.

Prereq: Grad standing or permission of instructor. Not open to students with credit for 810 or 7625.

6999 Masters Research in Slavic

G 3 - 6

Directed research in Slavic for fulfillment of M.A. requirements.

Prereq: Grad standing in Slavic and East European Languages and Literatures. Not open to students with credit for 999. This course is graded S/U.

7480 Slavic Film Directors

G 3

Slavic and East European film directors as auteurs; key notions of contemporary film theory. Taught in English.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs with change of topic.

7801 College Teaching of Slavic & East European Languages

G 3

Methods & techniques for teaching Slavic/Eur languages at college level; selection & preparation of teaching & testing materials & other aids. Requires participation in intensive workshop prior to Au sem. Required of all teaching assistants.

Prereq: Grad standing. Not open to students with credit for Russian 801.

7998 Doctoral Research in Slavic

G 1 - 6

Research in fulfillment of pre-candidacy requirements in Slavic Linguistics or Literature/Cultural Studies.

Prereq: Enrollment in Slavic Linguistics or Literature Ph.D program. Repeatable to a maximum of 12 or hrs or 4 completions. This course is graded S/U.

8741 Medieval Slavic Workshop

G 6

Biennial intensive Summer or May-term workshop in the methodology of working with medieval Cyrillic manuscripts using manuscripts from the Hilandar Research Library of The Ohio State University. Taught in English.

Prereq: 7625 (810), or Russian 6701 (720), or permission of instructor and accepted application to Medieval Slavic Institute through OSU Resource Center for Medieval Slavic Studies. Not open to students with credit for 812 & 814.

8802 Language and Memory: Psycholinguistic Approaches to Bilingualism

G 3

Discussion of psycholinguistic works related to memory and its role in language processing, second language learning, and forgetting. Taught in English. Elective for the GIS in Second Language Studies.

Prereq: Grad standing or permission of instructor. Not open to students with credit for 804.

8803 Language, culture, and cognition

G 3

Discussion of different methodological & theoretical approaches to the Linguistic Relativity (Sapir-Whorf) hypothesis, including data and scholarship from Russian & other Slavic languages. Taught in English.

Prereq: Grad standing, or permission of instructor.

8999 Dissertation Research in Slavic

G 3 - 12

Research in Slavic for dissertation purposes.

Prereq: Permission of dept chairperson. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

400 Social Work

1100	Introduction to Ohio State and the College of Social Work	U	1	3501	Engagement and Interviewing Skills	U	3	
The purpose of the Social Work Survey Course is to facilitate an eased integration to the OSU undergraduate community, and to assist students with developing relative strategies for a successful transition and participation in the community. Course is designed to provide a preliminary orientation to the social work undergraduate program and curricula.								
	Prereq: Undergraduate standing in the College of Social Work.			Addresses interviewing skills critical to social work. Didactic and experiential methods will provide a foundation for practice and facilitate entry into the field.				
1120	Introduction to Social Welfare	U	3	Prereq: Jr or Sr standing, and enrollment in SocWork major.				
An introduction to the history, structure, and function of the social welfare institution.								
	Prereq: Not open to students with credit for 220 or 520. GE soc sci human, nat, and econ resources course.			3502	Foundations of Generalist Practice	U	3	
1130	Introduction to Social Work in Contemporary Society	U	3	Introduces students to the theories, knowledge and skills of generalist social work practice, with an emphasis on work with individuals.				
An introduction to the core values, fundamental goals, unique functions and methods of the social work profession.								
	Prereq: Not open to students with credit for 230. GE soc sci indivs and groups course.			Prereq: 3501. Not open to students with credit for 645.				
1130H	Introduction to Social Work in a Contemporary Society	U	3	3503	Social Work Practice with Diverse Populations	U	3	
An introduction to the core values, fundamental goals, unique functions and methods of the social work profession.								
	Prereq: Honors standing. Not open to students with credit for 1130 (230). GE soc sci indivs and groups course.			Foundation knowledge and a social work perspective for working with diverse populations, especially those who are oppressed and marginalized.				
1140	Minority Perspectives: Race, Ethnicity, and Gender	U	3	Prereq: 3501.				
Examination of the structure of human societies, cultures, and institutions from the perspective of oppressed minority populations.								
	Prereq: Not open to students with credit for 300. GE diversity soc div in the US course.			3597	Adolescent Parenthood and Sexuality: An International Perspective	U	3	
2110	Prevention & Youth Development through Sport, Recreation, and Play	U	3	Examination of the biological, psychosocial and cultural forces that influence adolescent sexual behaviors. International comparisons will be emphasized with respect to teenage sexual trends and national policies and programs.				
Focuses on how characteristics of environmental contexts contribute to the development of social/academic/health-related problems among youth. Knowledge and skills of generalist social work practice are applied to guide the design and delivery of prevention and youth development programs in sport/recreation/play settings. There will be sports and recreational activities, so dress accordingly.								
	Prereq: Not open to students with credit for 310.			Prereq: Honors standing. Not open to students with credit for 1130 (230). GE soc sci indivs and groups course.				
3101	Professional Values and Ethics	U	3	3600	Introduction to Psychopathology and Social Work Practice	U	3	
Introduction to the NASW Code of Ethics, ethical theory, and ethical issues and dilemmas that confront professional social workers.								
	Prereq: Enrollment in SocWork major. Not open to students with credit for 690.			This course will familiarize students with the major mental disorders, offer strategies for building on clients' strengths and resilience, provide basic tools for screening and referral, and impart knowledge of the mental health delivery system and its resources.				
3201	Social and Economic Justice: Strategies for Social Work	U	3	Prereq: Jr or Sr standing in social work major, or permission of the department.				
Introduces students to social and economic justice and injustice and presents multiple strategies to pursue social justice, with a particular emphasis on the role of advocacy.								
	Prereq: Enrollment in SocWork major. Not open to students with credit for 521.			3805	Theories and Biological Basis of Addiction	U	3	
3301	Lifespan Development in Social Work	U	3	Comparative analysis of theories and models of addiction, including biological, psychological, socio-cultural, and pharmacological aspects, as well as related legal and ethical concerns.				
Students examine human development processes across the lifespan to understand human behavior.								
	Prereq: Enrollment in SocWork major. Not open to students with credit for 533 or 534.			Prereq: Soph, Jr, or Sr standing.				
3401	Research & Statistics for Understanding Social Work Problems and Diverse Populations	U	3	3806	Substance Use Screening, Assessment, Diagnosis, and Treatment Planning	U	3	
This is the first course in the BSSW program sequence preparing students to effectively work with research evidence and statistics as social work professionals. Students will develop the requisite skills and knowledge for beginning to identify, assess, and apply existing bodies of evidence to answer questions about social work problems and diverse populations.								
	Prereq: Math 1060 or 1075 or Math Placement Level R, and admission to the Social Work major. Not open to students with credit for 3401E.			The focus of this undergraduate elective course is to introduce and review concepts and current issues related to screening, assessment, diagnosis, and treatment planning for individuals with alcohol and other drug [AOD] use problems.				
3401H	Discovering Evidence	U	3	Prereq: 3805, or permission of instructor.				
Through this course honors students learn about evidence-informed practice at all intervention levels and critically examine existing bodies of evidence answering questions about problems, populations, and needs. Students will examine the interplay between theory, evidence, and the questions asked of evidence, as well as how to present evidence to constituents.								
	Prereq: Admitted to Social Work Honors program, and Jr or Sr standing.			3807	Intervention and Prevention Strategies in Substance Use	U	3	
3402	Research & Statistics for Understanding Social Work Interventions	U	3	Content includes review of the evidence base and techniques for contemporary and historical models of substance misuse prevention and intervention, including vulnerability, risk, resilience and protective factors. This course meets specified hours of chemical dependency educational content for Ohio's Licensed Chemical Dependency credentials.				
This is the second course in the BSSW program sequence preparing students to effectively work with research evidence and statistics as it applies to social work interventions at multiple levels. Students will develop the requisite skills and knowledge for beginning to identify, assess, and apply research evidence to inform and evaluate social work practices at multiple levels of intervention.								
	Prereq: 3401.			Prereq: 3805, or permission of instructor.				
3402H	Applying Evidence	U	3	3808	Group and Relationship Approaches in Substance Use Treatment	U	3	
Through this course honors students develop the requisite skills and knowledge for beginning to apply evidence to the processes of identifying and selecting social work practices at all levels of intervention. In addition to examining the interplay between theory, evidence, and practice, students will examine principles that apply to evaluating practice, programs, and policy.								
	Prereq: 3401E or 3401H.			Content includes review of the evidence base and techniques for contemporary and historical models of substance use intervention and prevention, including vulnerability, risk, resilience and protective factors. This course is designed to meet 45 hours of chemical dependency educational content for Ohio's Chemical Dependency Professional's Board credentialing.				
4188.01	Undergraduate Field Seminar	U	1	Prereq: 3805 (645). Concur: 4189. Repeatable to a maximum of 2 cr hrs.				
4188.02	Undergraduate Field Seminar	U	2	Integration of knowledge and practice; problem solving and discussion of social work practice issues, values, and ethics. Taken concurrently with field practicum.				
4189	Field Practicum	U	5	Prereq: 3502 (645). Concur: 4188.01 or 4188.02. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.				
4193	Individual Studies	U	1 - 3	Internship in a social work agency. Students integrate classroom knowledge and skills with practice experiences.				
Individual study projects in selected areas of social work and social welfare.								
	Prereq: 6 cr hrs in SocWork or related courses, and approval of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			Prereq: 6 cr hrs in SocWork or related courses, and approval of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.				
4194	Group Studies	U	1 - 3	Group study projects in selected areas of social work and social welfare.				
Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs or 3 completions.								
4501	Generalist Practice with Families	U	3	Prereq: 3502 (645). Concur: 4188.01 or 4188.02. Repeatable to a maximum of 6 cr hrs or 6 completions.				
Application of professional values, knowledge, and skills essential for effective generalist social work practice with families.								
	Prereq: 3502 (645). Not open to students with credit for 646.			Prereq: 3502 (645). Not open to students with credit for 646.				

Social Work **401**

4502 Generalist Practice with Groups	U	3	5013 Integrative Body-Mind-Spirit	U G	2
Application of professional values, knowledge, and skills essential for effective generalist social work practice with small groups. Prereq: 3502 (645). Not open to students with credit for 646.			Introduces knowledge and skills regarding assessment and treatment techniques pertaining to a holistic approach of mind, body, and spirit treatment. Prereq: Jr, Sr, or Grad standing in SocWork, or permission of department.		
4503 Generalist Practice with Larger Systems	U	3	5014 Juvenile Delinquency and Correctional Practice in Social Work	U G	3
Application of professional values, knowledge, and skills essential for effective generalist social work practice with organizations and communities. Prereq: 4502. Not open to students with credit for 647.			Provides students with knowledge about social work with juvenile and adult offenders. Theories about criminal offending and interventions with both juveniles and adults is covered. Prereq: Not open to students with credit for 503 or 695.13.		
4996H Honors Thesis Seminar	U	3	5015 Social Work and the Law	U G	3
Through guided study, students develop knowledge and skills to develop independent research studies, culminating in preparation of proposals for knowledge building thesis projects.			The purpose of this course is to teach students the legal concepts and principles that shape social welfare policy and social work practice. In addition, the course will teach students how social research is used by the legal system to decide cases and how social activism sometimes influences the legal system. Prereq: Jr, Sr, or Grad standing. Not open to students with credit for 695.23.		
4999 Thesis Research	U	5	5016 Affirmative Social Work Practice with LGBTQ Individuals, Couples, and Families	U G	3
Non-honors thesis research. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.			With focus on practice application, this course provides a comprehensive overview of the salient psych-social issues and life-course phenomena distinctive to the LGBTQ experience and affirmative interventions. Prereq: Sr or Grad standing in Social Work, or permission of instructor. Not open to students with credit for 715.		
4999H Engaging in Knowledge Building Research - Honors Thesis Research	U	5	5017 Social Work Practice in the Field of Intellectual/Developmental Disabilities	U G	2
Through guided group and independent study, students further develop and implement their independent social work research studies. Prereq: Honors standing, and 4996H. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.			Social work principles related to social, cultural, physical and educational/vocational issues of IDD using a lifespan perspective. Prereq: Not open to students with credit for 695.15.		
5001 Writing for Agency Practice	U G	2	5018 Interdisciplinary Case Management for Working with Underserved Populations	U G	2
Introduction to documentation skills utilized in the delivery of social work services. Prereq: Jr, Sr, or Grad standing in SocWork, or permission of department.			Provides students the opportunity to collaborate with students from other health care professions including pharmacy, health and rehabilitation sciences, nursing, medicine and social work. The students will use a problem-based learning approach to patient care in community health, focusing on populations, living in poverty, with complex healthcare needs. Prereq: Sr or Grad standing. This course is graded S/U. Cross-listed in HthRhSc 5000 and Nursing 5000.		
5002 AIDS Survey: Facts and Issues	U G	3	5020 Social Welfare and the Jewish Community	U G	1½
This course will provide a review of the physiological, global, cultural and educational issues inherent in understanding HIV disease and implications for social work practice. It will also explore the historical context of HIV and how response to the disease has evolved over the past 30 years in the United States. Prereq: Not open to students with credit for 695.17, 695.18, or 695.19.			Examines the organization, structure of Jewish communal service in the USA; Jewish culture, history, values, religious practices in relation to social service delivery and evolution; Jewish identity, minority status, and ethnicity. Other minority groups' experiences are discussed with implications for the future role of ethnic minorities in US culture and direction of social services. Prereq: Not open to students with credit for 712.		
5004 International Social Work	U G	3	5021 Summer Institute of Addiction Studies	U G	1
Examines a variety of social issues through a global perspective in order to fully appreciate the role of culturally diverse and country-specific responses to social problems. Prereq: Jr, Sr, or Grad standing in SocWork, or permission of department. Not open to students with credit for 695.08.			The Addiction Studies Institute provides students with state of the art information in working within the field of substance dependency/prevention. The goal is to provide the latest information in treatment planning, prevention, intervention, family work, wellness and recovery and current trends impacting service delivery systems.		
5005 Human Trafficking: Domestic and Global Perspectives	U G	3	5022 Social Work Interventions with Latinos	U G	3
Examines domestic and global human trafficking from a social work perspective. Prereq: Jr, Sr, or Grad standing.			Provides a comprehensive understanding of social work interventions (clinical and macro practices) with the diverse Latino population. Prereq: Jr, Sr, or Grad standing. Not open to students with credit for 301.		
5006 Sexualities, Diversity & Social Work	U G	3	5023 Family Violence: Social Work Perspectives and Interventions	U G	3
Diversity of sexual identities, beliefs, behavior, and lifestyles are explored in the context of social work's mission, values, and ethics for professional practice. Prereq: Jr, Sr, or Grad standing. Not open to students with credit for 695.20.			Introduces the fundamental knowledge and concepts for working with victims of all types of family violence. Factors that contribute to family violence and the long term consequences are emphasized. The importance of multidisciplinary teams in responding to family violence is addressed. Prereq: Soph standing or above.		
5007 Child Welfare I	U G	3	5024 Social Work Licensure Exam Strategies and Skills	U G	2
This is the first of a series of two child welfare courses designed to provide the knowledge, concepts, and tools for beginning level practice in public and private child welfare. This course focuses on interventions to protect children by strengthening, supporting, and empowering their families. Prereq: Jr standing, or above. Not open to students with credit for 695.21.			Provides instruction on test taking strategies, learning content and developing a study plan to pass the Bachelor and Clinical licensure exam. Provides students with a five volume study guide and a guarantee backed by AATBS to pass the exam. All content revised to reflect the changes in the Ohio Social Worker rules and access to multiple online practice tests in study and exam modes. Prereq: Sr or Grad standing in Social Work. This course is graded S/U.		
5008 Child Welfare II	U G	3	5025 Social Determinants of Health: An Interdisciplinary Perspective	U G	3
This is the second in a series of two child welfare courses. The first course (SocWork 5007: Child Welfare I) focuses on protecting children through strengthening and supporting their families. This course (SocWork 5008: Child Welfare II) addresses the developmental and permanence needs of children in the child welfare system. Prereq or concur: 5007. Not open to students with credit for 695.22.			Prepares students to practice in diverse health settings, with diverse populations, by providing knowledge regarding theories/frameworks related to social determinants of health and skills to apply them. Service provision for underserved populations within an interdisciplinary framework and the importance of social policy to service provision will be emphasized. Prereq: Sr, Grad or Professional standing.		
5009 Family Caregiving: Contemporary Issues, Programs, & Policies	U G	3			
Focuses on the development of knowledge and skills to address the needs of individuals providing care for an individual with a disability. Prereq: Jr, Sr, or Grad standing in SocWork, or permission of department. Not open to students with credit for 695.24.					
5011 Loss & Grief: A Social Work Practice Perspective	U G	2			
Examines the theoretical, cultural, social and personal aspects of loss and grief and introduce students to approaches and interventions with diverse populations. Prereq: Sr or Grad Standing in SocWork, or permission of department. Not open to students with credit for 714.					
5012 Social Work Approaches to Conflict Resolution	U G	2			
Introduces negotiation and mediation skills from a social work perspective to resolve conflict in work with individuals, families, groups, organizations, and communities. Prereq: Jr, Sr, or Grad standing in SocWork.					

402 Social Work

5026 Exploring Community Food Security Strategies	U G 3	6501 Engaging and Entering the Profession	G 4
Explores the complex interrelated social and environmental issues related to the food system. The development of the global food system and social, economic, health, and environmental consequences related to disparities in the food system will be discussed. Students will spend some class periods working at a food pantry, soup kitchen, produce distribution program and community garden.		Introduces students to the knowledge, skills and values needed to prepare for and engage in social work with vulnerable and oppressed populations.	
Prereq: Undergrad or Grad status in Social Work, or permission of instructor.		Prereq: Not open to students with credit for 744, 745, and 746. This course is graded S/U.	
5028 Macro-Practice in Community Youth Development	U G 3	7189 Advanced Field Practicum	G 1 - 4
Prepares students to be informed, resourceful, and proactive in addressing the complex and dynamic issues influencing youth in underserved communities. Prepares students to engage, assess, and evaluate how policy affects service delivery, and the role of macro-level social work practice in promoting positive youth development (PYD).		An internship in a social work agency where students will integrate advanced classroom knowledge and skills with practice experiences.	
Prereq: Jr, Sr, or Grad Standing.		Prereq: 6189 (789.01 or 789.02 or 789.03 or 789.04 or 789.05 or 789.06) or 7400 (or 747). Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.	
5029 SocWork Career Development	U G 1	7193 Individual Studies	G 1 - 3
This course will familiarize students with professional development tools and skills. Students will learn how to create a professional portfolio to interview, negotiate, network, and job search; to market their strengths, create a LinkedIn account, build their resume, negotiate during or after a job interview, and engage in workplace professionalism.		Individual study projects in selected areas of social work and social welfare.	
Prereq: 3502 or 6501.		Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.	
5194 Group Studies	U G 1 - 3	7194 Group Studies	G 1 - 3
Group study projects in selected areas of social work and social welfare.		Specialized topic courses in areas of social work and social welfare.	
Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs.		Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.	
5798.01 India Study Abroad Program	U G 3	7199 Thesis Research	G 1 - 3
The course introduces undergraduate and graduate students to history, tradition, and cultural paradigms impact on the social welfare policies and practices in India, with special emphasis on socio-economic, health and mental health programs and services delivery systems.		Individual thesis research projects in selected areas of social work and social welfare.	
5798.02 Social Issues and Human Rights in Nicaragua	U G 3	Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.	
The short term study abroad program in Nicaragua will expose undergraduate and graduate students to the historical and cultural context for social issues and human rights in Nicaragua, the largest and poorest country in Central America. Students will learn about the Sandinista revolution that took place in the 1970s and the current political and development environment. GE education abroad course.		7400 Evidence in Social Work Practice	G 2
5798.03 An Exploration of Australia's Systems of Care	U G 3	Students develop knowledge, values and skills about evidence to inform practice and prepare to analyze evidence at all levels of practice.	
Course is taught in Melbourne, Australia and focuses on two systems of care in Australia: child welfare and children's mental health. Students will learn about the country's policy, research, and practices, especially in relation to Aboriginal peoples, and about Australia's use of technology. Students will reflect on differences and similarities between the US and Australian systems.		Prereq: ASAP status.	
6188 Preparing for Field Education	G 1	7401 Social Work Evaluation I	G 3
Prepares students to be active learners and leaders in field by providing an orientation to field education, policies and procedures and training on Ohio Benefits Bank, safety, mental wellness and self-care, and the importance of field education. Students will learn expectations of professional and ethical behavior and communication and how to screen and access public benefits for clients.		This is a two semester course sequence focusing on how to evaluate social work practice and programs. Over the two semesters students will learn how to design an appropriate evaluation strategy, select relevant outcome measure, collect and analyze evaluation data, and use evaluation outcomes to guide practice and policy decisions.	
Prereq: MSW I standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.		Prereq: 6401 (770 and 771) or 7400 (770 and 771) or 8401. Not open to students with credit for 772.	
6189 Field Practicum	G 2	7402 Social Work Evaluation II	G 3
The focus in field practicum during this part of the educational program is on core social work competencies and learning activities with interrelated and interdependent human systems: individuals, families, groups, organizations, and communities.		This is a two semester course sequence focusing on how to evaluate social work practice and programs. Over the two semesters students will learn how to design an appropriate evaluation strategy, select relevant outcome measure, collect and analyze evaluation data, and use evaluation outcomes to guide practice and policy decisions.	
Prereq or concur: 6501 (744) and 6188. Repeatable to a maximum of 5 cr hrs or 3 completions. This course is graded S/U.		Prereq: 7401 or 7403. Not open to students with credit for 772 or 7404.	
6201 Social and Economic Justice	G 3	7403 Evaluating Programs and Policies	G 3
Foundation knowledge related to social justice in the context of social welfare in advancing human rights of all people.		Teaches methods for conducting social service program and policy needs assessment, process evaluation, and outcome evaluations.	
Prereq: Not open to students with credit for 720 and 721.		Prereq: 6401 (770 and 771) or 7400 (770 and 771). Not open to students with credit for 772.	
6202 Diversity and Cultural Competence	G 3	7404 Applied Program and Policy Evaluation	G 3
Conceptual framework for effective and culturally sensitive social work practice with oppressed and vulnerable populations.		MSW capstone course where students apply the knowledge and skills they have previously acquired to complete a program or policy evaluation project.	
Prereq: MSW I standing, or permission of instructor. Not open to students with credit for 709, 710, or 711.		Prereq: 7403.	
6301 Social Work Perspectives on Development and Behavior Across the Lifespan	G 3	7500 Professional Development	G 2
Examine individual and contextual development processes across the lifespan in order to understand how human behavior is impacted by risk and protective developmental factors.		Introduces ASAP student to the knowledge, skills, and values needed to prepare for and engage in the second year field practice experience.	
Prereq: Not open to students with credit for 733.		Prereq: ASAP standing. Not open to students with credit for 747.	
6302 Organizational & Community Systems	G 3	7510 Strengths-based Clinical Social Work with Individual Adults	G 3
Critically examines explanatory theory regarding the functioning of human service organizations, residential institutions, and communities with applications to social work assessment and intervention.		Focuses on using several specific clinical approaches for working with client strengths to effect change.	
Prereq: Not open to students with credit for 730.01 or 733 or 734.		Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744 or 745 or 746); or 7400 and 7500. Not open to students with credit for 741.02.	
6401 Engaging with Evidence	G 3	7511 Clinical Social Work with Children and Adolescents	G 3
Students develop knowledge, values and skills about evidence to inform practice and prepare to analyze evidence at all levels of practice.		The elements of advanced clinical social work with children and adolescents: theoretical frameworks, interviewing, diagnosis and assessment, treatment planning, practice methods, and evidenced-based interventions.	
Prereq: Not open to students with credit for 770 or 771.		Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, and 746); or 7400 and 7500. Not open to students with credit for 741.09.	
7512 Clinical Social Work with Couples and Families	G 3	7512 Clinical Social Work with Couples and Families	G 3
Course provides comprehensive introduction to several theoretical approaches to brief, strengths-based couple and family therapy with focus on practice application.		Course provides comprehensive introduction to several theoretical approaches to brief, strengths-based couple and family therapy with focus on practice application.	
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, and 746); or 7400 and 7500. Not open to students with credit for 741.03.		Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, and 746); or 7400 and 7500. Not open to students with credit for 741.03.	
7513 Clinical Social Work with Groups	G 3	7513 Clinical Social Work with Groups	G 3
Process and methods of advanced clinical social work with groups using various theoretical approaches with different types of groups and member diversity in various settings.		Process and methods of advanced clinical social work with groups using various theoretical approaches with different types of groups and member diversity in various settings.	
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744 or 745 or 746); or 7400 and 7500. Not open to students with credit for 741.05.		Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744 or 745 or 746); or 7400 and 7500. Not open to students with credit for 741.05.	

7514 Behavioral Methods in Social Work	G	3
Fundamental principles and practice of cognitive behavioral treatment (CBT) methods in social work across a variety of settings, practice problems, and client populations.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744 or 745 or 746); or 7400 and 7500.		
7515 Crisis Intervention and Trauma Treatment		
Steps for intervening with clients in crisis and effective approaches for treating clients experiencing the effects of trauma or posttraumatic stress syndrome (PTSD).	G	3
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744 or 745 or 746); or 7400 and 7500. Not open to students with credit for 741.03.		
7516 Assessment and Diagnosis in Clinical Social Work Practice	G	3
Diagnose and assess client symptoms and behavior using a formal diagnostic system such as the Diagnostic and Statistical Manual (DSM) in clinical social work practice.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744 or 745 or 746); or 7400 and 7500. Not open to students with credit for 730.02.		
7517 Social Work Practice in Schools	G	3
Prepares students to work effectively in the education setting as a licensed school social worker.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 713.		
7518 Advanced Case Management	G	1½
Development of competencies in the provision of case management services to address various complex client problems.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.		
7519 Advanced Practice in Motivational Interviewing	G	1½
Provides social work students with advanced practice skills in adopting a motivational interviewing style to help promote adolescents' and adults' intentional behavior change.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.		
7520 Pharmacotherapy in Social Work Mental Health and Substance Abuse	G	1½
A survey of key principles, issues, and social work practice implications related to common interventions involving medications for addressing mental health and substance abuse problems.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.		
7521 Evidence-based Substance Abuse Treatment	G	3
Examines specific evidence-informed social work practices in assessment, diagnosis, treatment, prevention, and relapse prevention with substance misuse, abuse, and dependence.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.		
7523 Clinical SW Practice with Older Adults	G	3
Advanced clinical practice with a focus on evidenced-based treatment modalities for older persons and their families.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 751.02.		
7530 Needs Assessment and Program Design	G	3
Introduces program development and design, the skills for program implementation and management, needs assessment and program design for collective decision-making in organizations, systems and communities.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 742.04.		
7531 Resource Acquisition for Human Service Organizations	G	3
Offers methods of acquiring financial and material resources for human service programs through grant writing, fund raising, lobbying, and campaigns.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 742.07.		
7532 Supervision and Human Resource Management	G	3
Prepares students for leadership and management in human services agencies. Students master skills in selecting and leading personnel in the context of the organizational culture.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 742.02.		
7533 Financial Management	G	3
Basic knowledge and skills of financial management in nonprofit human service organizations. Financing, budgeting and accounting are covered.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 742.05.		
7534 Prevention Strategies in Social Work Practice	G	1½
Examines prevention models, the evidence surrounding specific preventive interventions, and practice issues related to implementing prevention approaches.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.		
7550 Community Practice and Development	G	3
Prepares students for social work practice in community settings including engagement, assessment, intervention, evaluation in community practice.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744 or 745 or 746); or 7400 and 7500. Not open to students with credit for 730.03.		
7551 Strategic Planning for Organizational and Community Change	G	3
Use strategic planning methods for engaging others; assessing strengths, needs, and environment; setting goals; developing plans; fostering support and partnerships; and evaluating and monitoring results.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.		
7570 Policy Analysis and Social Legislation Process	G	3
Covers the legislative process of social welfare policy making and provides analytical skills of policy analysis to help legislators with policy choices at both state and federal government levels.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 752.		
7610 Integrative Seminar I on Aging and Health	G	3
Introduces students to health, illness and geriatric social work. Theories and psychosocial implications are presented, as are experiences and outcomes for diverse populations.		
7611 Integrative Seminar II on Aging and Health	G	3
Introduces students to the critical issues, theories, and knowledge need to understand and work with older persons from an interdisciplinary perspective and at multiple levels.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.		
7620 Integrative Seminar I on Mental Health and Substance Abuse	G	3
This course surveys: mental health practice approaches; mental health program and policy issues; mental health research and evaluation. Critical consideration is given to issues relevant to mental health and mental illness across time and stakeholder interests. Students examine public, professional, cultural, economic, and political influences on the development and delivery of mental health care.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.		
7621 Integrative Seminar II on Mental Health and Substance Abuse	G	3
Surveys social work practice, program, and policy issues, theories, and evidence related to substance use, misuse, abuse, and dependency across the lifespan.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.		
7630 Integrated Seminar I on Child and Youth Services	G	3
The first of two in a series, prepares students with competencies essential for working with children, youth, and families in various service settings.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.		
7631 Integrated Seminar II on Child and Youth Services	G	3
The second of two in a series, prepares students with competencies essential for working with children, youth, and families in various service settings.		
Prereq: 7630.		
7640 Integrative Seminar I on Community and Social Justice	G	3
Focuses on multiple social systems associated with social and economic inequality. Social intervention and social work practice are critically reviewed for advancing community and social justice.		
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.		
7641 Integrative Seminar II on Community and Social Justice	G	3
Focuses on social issues and intervention strategies at the organizational, community, and policy levels using a social structural perspective to assess social interventions and discusses alternative interventions.		
Prereq: 7640.		
7717 Interdisciplinary Perspective on Developmental Disabilities	G	3
Provides an introduction to the psychosocial, medical, and educational implications of developmental disabilities.		
Prereq: Permission of instructor. Not open to students with credit for 717.01 or 717.03. Cross-listed in HthRhSc, EducSt, Nursing, Psych, and SphHrng.		
7718 Interdisciplinary Perspective on Autism Spectrum Disorders	G	3
Teaches the analytical skills necessary to comprehend and formulate an interdisciplinary framework relating to major scientific and theoretical perspectives in autism spectrum disorders.		
Prereq: Permission of instructor. Not open to students with credit for 717.01 and 717.02. Cross-listed in HthRhSc, EducSt, Nursing, Psych, and SphHrng.		

404 Social Work

7719 Advanced Social Work Practice in Integrated Healthcare	G	3	8503 Job Search Seminar	G	3	
Focuses on practice skills and knowledge for integrated services and care to support persons with health, mental health, and substance use problems.						
8101 Research and Professional Development Seminar	G	1	Course will provide doctoral students with essential knowledge and skills for a successful academic job search. Topics include self-assessment, career planning, effective job search tools and skills, application material, interviewing, campus visits, job offers and negotiation, and transitioning to professional life.			
Provides a foundation for doctoral study in social work, emphasizing issues in translational research, standards for research and scholarship, transition from practitioner to academic. Prereq: Doctoral standing in Social Work or permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.						
8193 Individual Studies	G	1 - 5	8998 Research	G	1 - 12	
Independent study under the supervision of a faculty member.						
Prereq: Doct standing in SocWork. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.						
8194 Group Studies	G	1 - 3	Research for independent project or preparation of the written candidacy examination.			
Specialized topic courses in areas of social work and social welfare.						
Prereq: Doctoral student in SocWork. Repeatable to a maximum of 9 cr hrs or 9 completions.						
8201 Knowledge Building	G	3	Prereq: Doct standing in SocWork. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is progress graded (S/U).			
Examines the role of theory and elements of knowledge development for social work, social policy, and social change.						
Prereq: Doct standing. Not open to students with credit for 900.01.						
8202 Theories of Change for Social Problem Interventions	G	3	8999 Research for Dissertation	G	1 - 3	
Develops students' knowledge of theory and research concerning processes of change with individuals and larger systems, occurring with or outside of planned interventions. Not open to MSW students, but could be open to thesis master's students in other disciplines with permission of instructor.						
Prereq: Doct standing, or permission of instructor. Not open to students with credit for 900.02 or 900.03.						
8401 Foundations of Translational/Intervention Research in Social Work	G	3	Sociology			
Prepares students with basic competencies in research methods for translational and intervention research using quantitative, qualitative, and mixed methods.						
Prereq: Doct student in SocWork, or Grad standing in another field. Not open to students with credit for 901.01.						
8402 Qualitative Methods in Social Work Research	G	3	1101 Introductory Sociology	U	3	
Course reviews basic knowledge on qualitative research; the epistemologies, ontologies, and methodologies pertinent to qualitative inquiry. Paradigmatic, ethical, theoretical, historical, and political issues involved in the conceptualization and conduct of qualitative research are reviewed, with specific application to social work research.						
Prereq: Doct standing, or permission of instructor.						
8403 Methods for Translational/Intervention Research in Social Work	G	3	1101H Introduction to Sociology (Honors)			
Prepares students to apply quantitative research methods for translational and intervention research.						
Prereq: 8401 or 901.01.						
8404 Methods for Research in Context II	G	3	2194 Group Studies			
Students will develop competence in mixed qualitative and quantitative methods to study intervention adaptation and processes in social service organizations.						
Prereq: 8402 (901.02) or permission of instructor. Not open to students with credit for 902.02.						
8405 Quantitative Analysis: Special Issues and Considerations	G	3	2202 Social Problems and Public Policy			
Covers a range of quantitative methods, issues and considerations specific to social work and social sciences. Potential topics can include but are not limited to structural equation modeling, hierarchical linear modeling, measurement issues, geospatial analysis and modeling, agent-based modeling in the context of social work and social sciences inquiries.						
Prereq: Doct standing. Repeatable to a maximum of 6 cr hrs.						
8406 Analysis and Interpretation of Qualitative Data	G	3	2209 Introduction to Criminal Justice			
Introduces students to a selected group of qualitative methodologies and analysis strategies with applied focus on data analysis, interpretation, and writing up findings.						
Prereq: 8402 (901.02) or equiv.						
8501 International Social Work and Social Development	G	3	2210 Sociological Aspects of Deviance			
This course focuses on the multidimensional and dynamic local, national, regional, and international contexts and issues that help shape human welfare and social development in various parts of the globe. The course is designed to analyze theories, models, and strategies of social development in industrialized and developing countries.						
Prereq: Doct standing in SocWork, or permission of instructor. Not open to students with credit for 902.04.						
8502 Social Work Education: Pedagogy, Skills, Opportunities, and Challenges	G	3	2211S Corrections: An Inside-Out Course			
This course prepares students to assume educator roles and activities by developing knowledge and skills for effectively engaging in the development and delivery of social work education and engaging in delivering varied professional education activities.						
Prereq: Enrollment in the Doctoral Social Work program; or Grad standing, and permission of instructor.						

2330	Marriage and Society	U	3		3410H	Criminology (Honors)	U	3
	The impact of modern society and social policies on marriage forms emphasizing mate selection, cohabitation, marriage alternatives, and interactional patterns within the family.				Theories of delinquency, crime, and criminal careers; scientific aspects of crime measurement.			
	Prereq: Not open to students with credit for 330.				Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for 410H.			
2340	Sex and Love in Modern Society	U	3		3430	Sociology of the Family	U	3
	How behavior and meanings relating to sex and love have changed in recent decades; what explains these changes and the consequences of these changes.				Analysis of relationships between the family and the larger society including mate selection, status of women, and patterns of husband-wife and parent-child relationships.			
	Prereq: Not open to students with credit for 340.				Prereq: Not open to students with credit for 430.			
2345	The Social Structure of American Society	U	3		3434	The Child and Society	U	3
	An exposition of the structural patterns of American society, using sociological theories and data to form an integrated perspective.				A study of the ways in which society socializes children; current breakdown in the socializing processes and implications for the school and other educational agencies.			
	Prereq: Not open to students with credit for 345. GE soc sci orgs and polities course.				Prereq: Not open to students with credit for 434.			
2367.01H	The Political Elite and Interest Groups (Honors)	U	3		3435	Sociology of Gender	U	3
	Sociological analysis of American politics and society, emphasizing political elites and interest groups, and the changing role of the state in the economy.				Analyzes multilevel processes that differentiate women and men in education, employment, and relationships. Examines variations in gendered experiences across race-ethnicity, social class, and sexuality.			
	Prereq: Honors standing, and English 1110 (110), 1111, or 111, or equivalent; or permission of department or instructor. Not open to students with credit for 367.01H. GE writing and comm: level 2 and soc sci orgs and polities course.				Prereq: Not open to students with credit for 435. GE diversity soc div in the US course.			
2367.02	Urban Social Problems	U	3		3460	Environmental Justice	U	3
	The place of the city in social organization; the emergence, nature, and problems of modern urbanism; projects based in census and field data.				Examines environmental issues from a sociological perspective, especially human causes of environmental change such as technology, population, and consumption, and social reactions.			
	Prereq: English 1110 (110) or 1111 (111) or equiv. Not open to students with credit for 367.02. GE writing and comm course: level 2 and soc sci orgs and polities course.				Prereq: Not open to students with credit for 460. GE soc sci human, nat, and econ resources course.			
2370	Social Psychology in Sociological Perspective	U	3		3463	Social Stratification: Race, Class, and Gender	U	3
	Analysis of relationships between society and the individual. Learning of motives and social roles, socialization, group organization and disorganization. Development of self and personality.				The study of social inequality with a focus on inequalities by class and status, race and ethnicity, and gender.			
	Prereq: Not open to students with credit for 370. GE soc sci indivs and groups course.				Prereq: Not open to students with credit for 463. GE soc sci human, nat, and econ resources course.			
2391	Social Organization of Communities	U	3		3463H	Social Stratification: Race, Class, and Gender (Honors)	U	3
	Development of the modern community; approaches to the study of communities; significance of processes and value systems for community organization and disorganization.				The study of social inequality with a focus on inequalities by class and status, race and ethnicity, and gender.			
	Prereq: Not open to students with credit for 391.				Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for 463H. GE soc sci human, nat, and econ resources course.			
2797	Study at a Foreign Institution	U	1 - 9		3464	Work, Employment, and Society	U	3
	An opportunity for students to study at a foreign institution and receive Ohio State credit for their work. Students will pay Ohio State fees in excess of Ohio State tuition as well as all travel and subsistence costs.				Analysis of work organization; control and authority relationships in the workplace; comparative studies of work and labor movements; industrial decline; automation.			
	Prereq: Permission of department chairperson. Repeatable to a maximum of 27 cr hrs or 3 completions. This course is graded S/U.				Prereq: Not open to students with credit for 464.			
3191	Internship Program in Sociology and Criminology	U	1 - 6		3467	Sociology of Religion	U	3
	An opportunity for work experience and on-the-job learning in sociology and criminology related employment. Employment or experience through the Internship Program conducted under the supervision of the internship coordinator. Requires completion of internship learning agreement.				The social role of religious institutions and beliefs, with particular reference to the United States; the relation between religion and other aspects of society.			
	Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.				Prereq: Not open to students with credit for 467. GE diversity soc div in the US course.			
3200	Sociology of Immigration	U	3		3487	Research Methods in Sociology	U	3
	Provides a sociological understanding of contemporary migration both globally and with a particular focus on the U.S. The course will examine why migration occurs; how it is sustained over time; and how immigrants are incorporated into the host society. Social relations as central to understanding immigration will be a focus of the course.				Introduction to sociological research techniques, methodological approaches, and relevant quantitative procedures.			
	GE diversity soc div in the US course.				Prereq: Not open to students with credit for 487.			
3302	Technology and Global Society	U	3		3487H	Research Methods in Sociology (Honors)	U	3
	Social aspects of technology, social change, and technological development; underdevelopment and the global economy.				Introduction to sociological research techniques, methodological approaches, and relevant quantitative procedures.			
	Prereq: Not open to students with credit for Sociol 302.				Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for 487H.			
3306	Sociology of Poverty	U	3		3488	Introduction to Sociological Theory	U	3
	A study of low-income peoples, especially concerning the effect of poverty on them, and their consequent social participation.				Introductory statement of the nature of sociological theory, its basic problems, assumptions, major types and orientations, and principal contributions to the discipline.			
	Prereq: Not open to students with credit for 306. GE diversity soc div in the US course.				Prereq: 3 or hrs taken at 2000-3000 level. Not open to students with credit for 488.			
3315	Sociology of Terrorism	U	3		3549	Statistics in Sociology	U	3
	Provides a broad review of the definitions, histories, types, and theories of terrorism from a sociological perspective.				An introduction to the application and interpretation of quantitative analysis in sociological research; emphasis on the description of social variables and hypothesis testing.			
	Prereq: Not open to students with credit for 315.				Prereq: Au, Sp, Su Sems. Prereq: Not open to students with credit for 549. GE data anly course.			
3380	Racial and Ethnic Relations in America	U	3		3597.01	World Problems in Global Context	U	3
	Historical and contemporary study of race and ethnicity in the U.S. with a focus on relations within and between groups.				Sociological analysis of contemporary world societies - non-industrialized, industrializing, and industrialized - with special attention to major social institutions and patterns of social change.			
	Prereq: Not open to students with credit for 2380 or 380. GE soc sci indivs and groups course.				Prereq: Not open to students with credit for 597.01. GE diversity global studies course. GE cross-disciplinary seminar course.			
3410	Criminology	U	3		3597.02	World Population Problems	U	3
	Theories of delinquency, crime, and criminal careers; scientific aspects of crime measurement.				General introduction to population studies, emphasizing how population growth and structure have caused or aggravated social problems in various countries.			
	Prereq: Not open to students with credit for 410.				Prereq: A general education quantitative reasoning course. Not open to students with credit for 597.02. GE diversity global studies and cross-disciplinary seminar course.			
3630	Medical Sociology	U	3		3630	Medical Sociology	U	3
	Sociological analysis of the distribution of disease, and the nature of health care institutions, health professions, and the delivery of health care services.				Prereq: Not open to students with credit for 630.			

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3798.03 Genocide and its Aftermath in Rwanda	U	3	4510 Gender, Crime, and the Criminal Justice System	U	3			
Course explores the 1994 Rwandan genocide through active learning experiences in Rwanda. Topics include: origins and causes of the genocide in Rwanda and globally; forms of violence, participants, and victims; aftermath and legal response including gacaca courts and collective memories; and human rights, development, and economic growth in Rwanda today.								
Prereq: Permission of instructor. GE education abroad course.								
4000E Social Science Business Collaborative: A Service Learning Approach	U	3	4511 Juvenile Delinquency	U	3			
Sociology 4000E is an Honors Embedded course in which students learn to develop research projects through collaboration with a local business on a service project. Uses University resources to address community issues, facilitate data collection, learn project management and present research findings in academic and applied settings and learn through improving the community.								
Prereq: Honors standing, and 1101; or permission of instructor. Repeatable to a maximum of 6 cr hrs. GE service learning course.								
4000H Social Science Business Collaborative: A Service Learning Approach	U	3	4519S Building Community Capacity: A Service Learning Approach	U	3			
Sociology 4000H is an Honors course designed to help students develop research projects through collaboration with a local business to work on a service project; link university resources to bear on community issues, facilitate data collection, learn the process of project management, present research findings in both academic and applied settings, learn through bettering the community.								
Prereq: Honors standing and 1101, or permission of instructor. Repeatable to a maximum of 6 cr hrs. GE service learning course.								
4000S Social Science Business Collaborative: A Service Learning Approach	U	3	4607 Sociological Perspectives on New Media	U	3			
Sociology 4000S is a course that helps students develop research projects through collaboration with a local business to work on a service project; link university resources to bear on community issues, facilitate data collection, learn project management, present research findings in academic and applied settings, learn through improving the community.								
Prereq: 1101, or permission of instructor. Repeatable to a maximum of 6 cr hrs. GE service learning course.								
4189.02 Fieldwork in Criminology and Criminal Justice	U	3	4609 Neighborhoods and Crime	U	3			
Practicum in criminology and/or the criminal justice system. Credit does not apply to hours in the sociology/criminology major.								
Prereq: Enrollment in Sociology or Criminology major, or permission of instructor. Not open to students with credit for 589.02. This course is graded S/U.								
4189.03 Criminal Investigation	U	3	4610 Sociology of Deviant Behavior	U	3			
Theory and practice of criminal investigation and prosecution in the U.S. Criminal Justice System with attention to: (1) the roles of the law enforcement officer, prosecutor, and court personnel; (2) familiarization with various investigative techniques; (3) the collection and preservation of physical evidence; and (4) constitutional limitations and ethical considerations.								
Prereq: Enrollment in Sociology or Criminology major, or permission of instructor. This course is graded S/U.								
4193 Individual Studies	U	1 - 6	4611 Prisons, Jails, and Community Corrections	U	3			
Individual studies.								
Prereq: 12 cr hrs in Sociol, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.								
4505 Capital Punishment in the United States	U	3	4615 Control and Prevention of Crime and Delinquency	U	3			
Examines the role of capital punishment in the contemporary United States.								
Prereq: Jr or Sr standing; or permission of instructor, or department. Not open to students with credit for 505.								
4506 Drugs and Society	U	3	4635 Men and Women in Society	U	3			
Sociological perspective on substance use. Exploration of the causes, consequences, and criminalization of substance use; consideration of race and class differences in drug enforcement; media portrayals of substance use; global perspectives on drug use and drug law.								
Prereq: Jr standing or higher, or permission of instructor.								
4507 The Criminal Justice System	U	3	4650 Undergraduate Seminar in Social Networks	U	3			
Advanced study of the role and operation of the criminal justice system: police, courts, and corrections.								
Prereq: Jr standing or above, or permission of instructor or department. Not open to students with credit for 507.								
4508 Violence	U	3						
Examines societal definitions of violence, theories that are most commonly invoked to explain violence, and research designed to critically evaluate theories of violence.								
Prereq: Jr standing or above, or permission of instructor or department. Not open to students with credit for 4670.02, 508, or 673.								
4509 Sociology of Law	U	3	4655 Sociology of Sport	U	3			
The relationship between law and social order emphasizing the structure of law, social origins of law, and law as a source of social change.								
Prereq: Jr standing or above, or permission of instructor or department. Not open to students with credit for 509.								
4998 Undergraduate Research in Sociology	U	1 - 9	4666 Power and Society	U	3			
Undergraduate research or creative activities in variable topics.								
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.								
4999.01 Thesis Research: Sociology (Non-Honors)	U	1 - 3						
A conference-thesis course for students not enrolled in the Honors program; subject matter will vary depending upon student's topic.								
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.								

4999.01H Honors Thesis Research: Sociology (Honors)	U	1 - 3	5194.14 Group Studies: Gender	U G	3
A conference-thesis course; subject matter will vary depending upon student's topic. At least 2 semesters are required for the degree BA with social distinction. Failure to receive a mark of S in this course is a disqualification for special honors.			Topics vary each semester offered.		
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.		
4999.02 Thesis Research: Criminology and Criminal Justice (Non-Honors)	U	1 - 3	5194.15 Group Studies: Unclassified	U G	3
A conference-thesis course for students not enrolled in the Honors program; subject matter will vary depending on student's topic.			Topics vary each semester offered.		
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.		
4999.02H Honors Thesis Research: Criminology and Criminal Justice (Honors)	U	1 - 3	5450 Sociology of Global Health and Illness	U G	3
A conference-thesis course; subject matter will vary depending upon student's topic. At least 2 semesters are required for the degree BA with criminology distinction. Failure to receive a mark of S in this course is a disqualification for special honors.			Sociological study of health and illness from a global perspective. Topics include health, illness, and related behaviors; disease processes, correlates of diseases, global efforts to improve health, and comparative health care systems.		
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			Prereq: Jr, Sr, Grad standing; or permission of instructor, or department. Not open to students with credit for 450. GE diversity global studies course.		
5194.01 Group Studies: Sociological Theory	U G	3	5463 Advanced Social Stratification	U G	3
Topics vary each semester offered.			In-depth theoretical and empirical questions driving the field of inequality, poverty, and social mobility in the 21st century will be explored. We will focus on class, race, and gender inequality in the US, though the course will also develop tools for understanding inequality and poverty across times and places.		
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.			Prereq: Jr, Sr, or Grad standing; or permission of instructor or department.		
5194.02 Group Studies: Social Organization	U G	3	5503 Social Change in Central and Eastern Europe	U G	3
Topics vary each semester offered.			Examines and discusses various approaches to social change, focusing on Central and Eastern Europe and its transition to the post communist era. It deals with political, economic, and cultural aspects of life in the region.		
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.			Prereq: 3 cr hrs at 2000-3000 (200-400) or higher level. Not open to students with credit for 503.		
5194.03 Group Studies: Medical Sociology	U G	3	5525 Global Criminology	U G	3
Topics vary each semester offered.			Provides students an introduction to global crime from a criminal justice perspective.		
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.			Prereq: Jr, Sr, Grad standing; or permission of instructor, or department. Not open to students with credit for 525.		
5194.04 Group Studies: Criminology and Criminal Justice	U G	3	5605 Sociology of Sexuality	U G	3
Topics vary each semester offered.			A social and institutional approach to the study of sexuality with a focus in sexual identities, practices, institutions, communities, and sexuality movements.		
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.			Prereq: Jr, Sr, Grad standing; or permission of instructor, or department. Not open to students with credit for 605.		
5194.05 Group Studies: Sociology of Education	U G	3	5618 Sociology of Police and Policing	U G	3
Topics vary each semester offered.			Sociological understanding of the origins of routine police conduct and misconduct; representative topics include police-citizen encounters and police abuse of discretion.		
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.			Prereq: Jr, Sr, or Grad standing; or permission of instructor, or department. Not open to students with credit for 618.		
5194.06 Group Studies: Race/Ethnicity/Minority Relations	U G	3	5629 Health Disparities in Social Context	U G	3
Topics vary each semester offered.			Analysis of the social determinants of health and health disparities with a focus on stratification/inequality. Includes variations in health disparities over the life course.		
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.			Prereq: Jr standing or above, or permission of instructor or department. Not open to students with credit for 629.		
5194.07 Group Studies: Social Psychology	U G	3	5680 Marriage and Its Alternatives	U G	3
Topics vary each semester offered.			An in-depth look at some emerging life style patterns, such as dual-career marriages, childless marriages, single-parent families, blended families, singlehood, cohabitation, etc.		
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.			Prereq: 3 cr hrs in Sociol at 2000-3000 level or above.		
5194.08 Group Studies: The Family	U G	3	5797 Study at a Foreign Institution	U G	1 - 9
Topics vary each semester offered.			An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees in excess of Ohio State tuition, as well as all travel and subsistence costs.		
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.			Prereq: Permission of department chairperson. Repeatable to a maximum of 27 cr hrs or 3 completions. This course is progress graded (S/U).		
5194.09 Group Studies: Research Methodology	U G	3	6193 Individual Studies	G	1 - 12
Topics vary each semester offered.			Individual Studies. Repeatable. This course is graded S/U.		
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.			Prereq: 18 cr hrs in Sociol; or Grad standing, and permission of instructor. Repeatable to a maximum of 99 cr hrs or 99 completions. This course is graded S/U.		
5194.10 Group Studies: Urban/Community/Ecology	U G	3	6582 Sociological Theory	G	3
Topics vary each semester offered.			Analysis of classical systems and their representatives, e.g., positivistic social evolutionism (Compte, Spencer, Durkheim), historical materialism (Marx-Engels), and humanistic idealistic reactions (Toennies, Simmel, M. Weber).		
Prereq: 3 cr hrs at 2000-3000 (200-400) or higher level. Repeatable to a maximum of 9 cr hrs.			Prereq: Grad standing. Not open to students with credit for 782.		
5194.11 Group Studies: Labor Markets/Economy and Society	U G	3	6608 Qualitative Methods in Sociology	G	3
Topics vary each semester offered.			A survey of qualitative approaches to social research, including participant observation, intensive interviewing, and archival/documentary analysis.		
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.			Prereq: Grad standing. Not open to students with credit for 704.		
5194.12 Group Studies: Political Sociology	U G	3	6649 Intro to Quantitative Research/Multiple Regression	G	3
Topics vary each semester offered.			Assumptions, principles, and applications of the multiple regression model in sociological practice; basic model, dummy variables, and special functional forms.		
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.			Prereq: Honors standing, and Grad standing; or permission of instructor. Not open to students with credit for 648 or 649.		
5194.13 Group Studies: Population/Demography	U G	3			
Topics vary each semester offered.					
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.					

408 Sociology

6650 Categorical Data Analysis	G	3	7754 Introduction to Demography	G	3
Techniques of analysis for examining nominally measured dependent variables, and treatment of error structures that are heteroskedastic or correlated across cases.			An exposition of census data and vital statistics, demographic rates, life tables, cohort analysis, and similar elementary techniques and data sources in demography.		
Prereq: 6649 (649) and Grad standing, or permission of instructor. Not open to students with credit for 703.			Prereq: One course in Stat. Not open to students with credit for 754.		
6655 Sociological Research Methods	G	3	7755 Fertility	G	3
Theory and practice in essentials of the research process; comparison of alternative approaches and design models; questionnaire construction, interview techniques, and related problems.			A critical and methodological analysis of fertility, with special emphasis on the social context of reproductive behavior in American society.		
Prereq: 6649 (649) or equiv, or permission of instructor. Not open to students with credit for 651.					
6708 Design and Analysis of Qualitative Sociological Research	G	3	7756 Sociology of Immigration	G	3
Problems and techniques of non-quantitative data analysis including case studies, participant observation, field diary, autobiography, and historical records.			Theories and models of population mobility; determinants and consequences of migration and immigration processes; policy implications of cross-national and rural-urban migration.		
Prereq: 6649. Not open to students with credit for 708. Repeatable to a maximum of 10 cr hrs.			Prereq: Not open to students with credit for 756.		
6710 Design and Analysis of Sociological Research	G	3	7758 Population, Health, and Life Course	G	3
Problem formulation, hypothesis testing, argumentation from data, and writing for professional audiences; research practicum leading to a research project.			Social and demographic forces that affect well being, health, and survival.		
Prereq: Grad standing in Sociol, or permission of instructor.			Prereq: Grad standing, or permission of instructor. Not open to students with credit for 758.		
6800 Proseminar in Sociology	G	1	7760 Sociology of Conflict and Violence	G	3
Each week an area of specialization within sociology will be discussed by a professor whose major interest is in that area; provides an overview of special topics and current issues. Open only to 1st year graduate students.			Comparative analysis of the sources and impact of conflict and violence.		
Prereq: Not open to students with credit for 800. This course is progress graded (S/U).			Prereq: 10 cr hrs in Sociol, or Grad standing. Not open to students with credit for 760.		
6802 Teaching Sociology	G	2	7761 Social Stratification	G	3
Designed to prepare sociology graduate students to teach independent sections of basic sociology classes.			A survey of major theories, issues, and empirical literature on societal stratification and inequality with particular focus on the United States.		
Prereq: Grad standing in Sociol, or permission of instructor. Not open to students with credit for 802. This course is progress graded (S/U).			Prereq: Not open to students with credit for 761.		
6999 Research for Thesis	G	1 - 12	7762 Comparative Social Inequality	G	3
Research for thesis purposes only. Au and Sp Semesters Repeatable. This course is graded S/U.			Using historical and cross-national approaches, two aspects of social inequality are examined: class relations and the distribution of goods.		
Prereq: Not open to students with credit for 998. This course is graded S/U.			Prereq: Not open to students with credit for 762.		
7700 Writing and Publishing in Sociology	G	3	7780 Racial and Ethnic Differences	G	3
Designed to review the mechanics of writing and publishing in sociology and related specialty journals.			An analysis of the origin, persistence, adaptation and change of systems and racial and ethnic differentiation.		
Prereq: 6655 (651). Not open to students with credit for 700.			Prereq: Not open to students with credit for 780.		
7710 Introduction to Social Networks	G	3	7790 Social Organization of the Community	G	3
Focuses on the theoretical and methodological bases of social network analysis.			An examination of the nature, structures, processes, and trends of social organization of modern communities.		
Prereq: Grad standing, and enrollment in Comm or Sociol program; or permission of instructor. Not open to students with credit for Comm 7710. Cross-listed in Comm.			Prereq: Not open to students with credit for 790.		
7711 Sociology of Work	G	3	7806 Social Movements	G	3
A survey of selected topics in sociology of workplace relations; control, administration, leadership, and occupations; theoretical approaches to the study of workplace relations.			Explores how and why social movements arise and their impact on society.		
Prereq: Not open to students with credit for 711.			Prereq: Grad standing, or permission of instructor. Not open to students with credit for 806.		
7712 Seminar in Social Networks	G	3	7820 Sociology of Education	G	3
The theory, substance, and methods for understanding patterns, causes, and consequences of relationships among populations of actors. Sociol 6649 and 6581 recommended.			Special problems will be considered in different semesters, including urban education, student movements, bureaucratic-professional problems, school-community relations, and innovation.		
Prereq: Grad standing, and enrollment in Comm or Sociol program; or permission of instructor. Not open to students with credit for Comm 7712. Cross-listed in Comm.			Prereq: Not open to students with credit for 820.		
7718 Criminology Theory and Research	G	3	7837 Political Sociology	G	3
An advanced introduction and critical study of measurement, theory and research in criminology.			Selected topics in political sociology.		
Prereq: Grad standing or permission of instructor. Not open to students with credit for 718.			Prereq: Grad standing, or permission of instructor. Not open to students with credit for 837.		
7723 Sociology of Crime Control and Punishment	G	3	7884.01 Seminar: Sociological Theory	G	3
Theoretical survey of reactions to crime including arrest, charge, and sentencing.			Topics in sociological theory selected to give the advanced student opportunity to pursue special studies not otherwise offered.		
Prereq: Grad standing. Not open to students with credit for 723.			Repeatable to a maximum of 12 cr hrs.		
7735 Sociology of Gender	G	3	7884.03 Seminar: Medical Sociology	G	3
An examination of current theory and research on the sociology of gender through extensive readings.			Topics in medical sociology selected to give the advanced student opportunity to pursue special studies not otherwise offered.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 735.			Repeatable to a maximum of 12 cr hrs.		
7748 Comparative Methods in Sociology	G	3	7884.04 Seminar: Criminology and Criminal Justice	G	3
Basic review of methods of comparative analysis as used in the study of social change.			Topics in criminology and criminal justice selected to give the advanced student opportunity to pursue special studies not otherwise offered.		
Prereq: 6655. Not open to students with credit for 748.			Repeatable to a maximum of 12 cr hrs or 4 completions.		
7753 Introduction to Demographic Analysis	G	3	7884.06 Seminar: Race/Ethnic/Minority Relations	G	3
An exposition of census data and vital statistics, demographic rates, life tables, cohort analysis, and similar elementary techniques and data sources in demography.			Topics in race/ethnic/minority relations selected to give the advanced student opportunity to pursue special studies not otherwise offered.		
Prereq: Graduate standing, or permission of instructor with approval by Graduate School for undergraduate credit.			Repeatable to a maximum of 12 cr hrs or 4 completions.		
			7884.08 Seminar: The Family	G	3
			Topics in family studies selected to give the advanced student opportunity to pursue special studies not otherwise offered.		
			Repeatable to a maximum of 12 cr hrs.		
			7884.09 Seminar: Research Methodology	G	1 - 3
			Topics in research methodology selected to give the advanced student opportunity to pursue special studies not otherwise offered.		
			Repeatable to a maximum of 12 cr hrs or 4 completions.		

7884.10 Seminar: Urban/Community	G	3
Seminar on current topics in the sociological study of social and structural aspects of community and urban life.		
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
7884.11 Seminar: Labor Markets/Economy and Society		
Topics in labor market and economy selected to give the advanced student opportunity to pursue special studies not otherwise offered.		
Repeatable to a maximum of 12 cr hrs.		
7884.12 Seminar: Political Sociology	G	3
Topics in political sociology selected to give the advanced student opportunity to pursue special studies not otherwise offered.		
Repeatable to a maximum of 12 cr hrs.		
7884.13 Seminar: Population/Demography	G	3
Topics in population/demography selected to give the advanced student opportunity to pursue special studies not otherwise offered.		
Repeatable to a maximum of 12 cr hrs.		
7884.14 Seminar: Gender	G	3
Topics in the sociology of gender selected to give the advanced student opportunities to pursue special studies not otherwise offered.		
Prereq: Not open to students with credit for 884.14. Repeatable to a maximum of 12 cr hrs.		
7884.15 Seminar: Unclassified	G	3
Unclassified seminar.		
Prereq: Not open to students with credit for 884.15. Repeatable to a maximum of 12 cr hrs.		
8547 Theories of Social Change	G	3
Analysis of theoretical traditions in the study of social change, and methods of constructing synthetic theories of change.		
Prereq: 6582 (782) or equiv. Not open to students with credit for 747.		
8580 Issues in Contemporary Theory	G	3
A critical examination of contemporary theory in sociology with an emphasis on individual action in the social context.		
Prereq: 6582 (782), or 6584 (784), or permission of instructor.		
8607 Causal Modeling	G	3
A survey of advanced problems in the multivariate analysis of sociological data.		
Prereq: 6649 (649). Not open to students with credit for 707.		
8632 Analysis of Longitudinal Data	G	3
Provides an introduction to event history analysis and other types of longitudinal data analysis.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 852.		
8651 Hierarchical Linear Models	G	3
Introduction to hierarchical linear and nonlinear models; review of three level, latent growth curve, cross-classified, and latent variable models for hierarchical data.		
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 851.		
8801 PhD Proseminar	G	1
Orientation for new PhD students in sociology.		
Prereq: Doc't standing in Sociol. Not open to students with credit for 801. This course is progress graded (S/U).		
8802 Seminar for Graduate Interdisciplinary Specialization in Demography	G	3
Core required course for students enrolled in the Graduate Interdisciplinary Specialization in Demography (GISD). Presents an introduction to demography (the study of populations) and population health.		
Prereq: Grad standing, or permission of instructor with approval by Graduate School for undergraduate credit. Repeatable up to a maximum of 12 cr hrs. Cross-listed in PubHlth.		
8888 Seminar in the American Family	G	3
An examination of relevant issues, trends, and problems with emphasis on theoretical orientations and research findings.		
Prereq: Not open to students with credit for 888.		
8999 Research For Dissertation	G	3 - 16
Research for dissertation purposes only.		
Repeatable. This course is graded S/U.		

Somali

1101 Elementary Somali I	U	4
Development of oral proficiency in Somali through basic listening, speaking, and reading skills using a competency-based curriculum. Not open to native speakers of the language through regular course enrollment.		
Prereq: Not open to students with credit for 101. This course is available for EM credit. GE for lang course.		

1102 Elementary Somali II	U	4
Continuation of 1101; further work on developing oral proficiency in Somali through basic listening, speaking, and reading skills using a competency-based curriculum. Not open to native speakers through regular course enrollment or EM credit.		
Prereq: 1101. Not open to students with credit for 101. This course is available for EM credit. GE for lang course.		

1103 Elementary Somali III	U	4
Continuation of 1102; further work on developing oral proficiency in Somali through basic listening, speaking, and reading skills using a competency-based curriculum. Not open to native speakers through regular course enrollment or EM credit.		
Prereq: 1102. Not open to students with credit for 101. This course is available for EM credit. GE for lang course.		

2201 Intermediate Somali I	U	3
Students gain enhanced proficiency in the speaking, reading, listening, and writing of the Somali language in a meaningful communicative context.		
Prereq: 1103. This course is available for EM credit.		

2241 Intermediate Somali II	U	3
Students develop skills in the ability to understand other cultures and patterns of thought and to communicate across culture, cultural ideologies, and national boundaries.		
Prereq: 2201. This course is available for EM credit.		

3301 Intermediate Somali III	U	3
Students gain a general overview of the customs and traditions of Somali speaking peoples in the Horn of Africa and the Diaspora.		
Prereq: 2241. This course is available for EM credit.		

Spanish

1101.01 Spanish I	U	4
Development of listening, reading, speaking, and writing skills in cultural contexts. Not open to native speakers of this language through regular course enrollment or EM credit or to students with 3 or more years of high school Spanish. Students with 1+ years of high school Spanish must take the MultiCAT placement exam.		
Prereq: Not open to students with credit for 102.01, 102.66, 103.01, 1101.01, 1102.01, 1155 (103.66), 1103.01 (104), or 1103.51, 2200H (104H). This course is available for EM credit. GE for lang course. FL Admis Cond course.		

1102.01 Spanish II	U	4
Further development of listening, reading, speaking, and writing skills in cultural contexts. Not open to native speakers of this language through regular course enrollment or EM credit.		
Prereq: 1101.01 or equiv. Not open to students with credit for 103.01, 103.66, 104, 1102.01, 1155, 1103.01, or 1103.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.		

1103.01 Spanish III	U	4
Continuing development of listening, reading, speaking, and writing skills in cultural contexts. A grade of C- or above is required to continue to 2201.01/51 and/or 2202.01/51. Not open to native speakers of this language through regular course enrollment or EM credit.		
Prereq: 1102.01 (103.01) or 1155 (103.66). Not open to students with credit for 104, 104H, 2200H, 1103.51, 2201.01, 2201.51, 2202.01, or 2202.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.		

1103.51 Spanish III: Individualized Instruction	U	1 - 4
Continuing development of listening, reading, speaking, and writing skills in cultural contexts. Taught in Spanish. This course is designed for Individual Instruction (I.I.). "B" average in Spanish coursework strongly recommended. Progress sequential cr hr to cr hr. 80% proficiency req for advancement. 4 cr hrs needed to move on to Spanish 2000-level. Not open to native speakers.		
Prereq: 1102.01 (103.01), 1102.30, or 1155 (103.66), or equiv. Not open to students with credit for 1103.01 (104) or 2200H (104H). Repeatable to a maximum of 4 cr hrs or 4 completions. GE for lang course. FL Admis Cond course.		

1155 Intensive Spanish for Review	U	4
Intensive beginning Spanish; emphasis on development of proficiency in listening, speaking, reading and writing in cultural contexts. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with less than 3 years of high school Spanish.		
Prereq: By placement exam only. Not open to students with credit for 1101.01, 1102.01, 1103.01, 1103.51, 101.01, 102.66, 102.01, 103.66, 103.01, 104, or 111. This course is available for EM credit. GE for lang course. FL Admis Cond course.		

2150 Culture and Literature of Spain	U	3
Introduction to the principal developments of the culture of Spain through literature, art, music, film, and folklore.		
Prereq: Not open to students with credit for 150. GE cultures and ideas course. GE diversity global studies course.		

2151 Latin American Culture and Literature	U	3
Introduction to the culture of Spanish America and Brazil through literature, art, music, film, and folklore.		
Prereq: Not open to students with credit for 151. GE cultures and ideas and diversity global studies course.		

410 Spanish

2193 Individual Studies	U	1 - 9	2367S The US Experience: Hispanics, Language, and Literacy	U	3
Individual studies. Prereq: Written permission of department and additional paperwork required. Repeatable to a maximum of 60 credits or 60 completions. This course is graded S/U.					
2194 Group Studies					
Group studies. Prereq: Written permission of department is required. Repeatable. This course is graded S/U.					
2200H Honors Intermediate Spanish Language					
Intensive, intermediate Spanish for potential Spanish majors, minors, & highly-motivated students in other areas of study; emphasis on development of proficiency in listening, speaking, reading & writing & knowledge of Hispanic cultures. Upon successful completion of 2200H (104H) & the SLRPE, students & eligible to enroll in 3401 (401), 3403 (403), & 3404 (404). Not open to native speakers. Prereq: Honors standing, and 1102.01 (103.01), 1102.30, 1155 (103.66), or equiv, and GPA 3.4 or higher; or permission of instructor. Not open to students who have credit for 1103.01 or 1103.51 (104). GE for lang course. FL Admis Cond course.					
2202.01 Spanish IV	U	3	2380 Introduction to Latin American Film	U	3
Ongoing development of listening, reading, speaking, and writing skills and knowledge of Hispanic cultures. Taught in Spanish. A grade of C- or above is required to move on to Spanish 3000-level. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1103.01, or equiv. Not open to students with credit for 2202.51. FL Admis Cond course.					
2208.22 Andean Music Ensemble	U	½ - 1	2389 Spanish in the US: Language as Social Action	U	3
Learning to playing and performing music from Bolivia, Peru, Ecuador, Chile, Colombia and Argentina. The course explores various musical genres within the Andean region. Students study techniques and methods for playing Andean instruments and learn to sing in Spanish, Quechua and Aymara. Repeatable to a maximum of 10 cr hrs or 10 completions. Cross-listed in Music.					
2213 Spanish IV for Heritage Speakers	U	3	2504 Language, Culture & Communication in Latino Health	U	3
This course identifies & expands on Spanish heritage students' diverse identities & bilingual range through grammar review, vocabulary building, spelling and punctuation, & the development of composition skills. Listening, speaking, reading, & writing are emphasized through readings, written essays, & oral presentations. A grade of C- or above is required to move on to Spanish 3000-level. Not open to native, non-native, or non-heritage speakers of this language through regular course enrollment or EM credit. Prereq: 1103.01 or equiv., or permission of instructor. Not open to students with credit for 2202.01 or 2202.51 or equiv. This course is available for EM credit.					
2242 Introduction to Latino Studies	U	3	2506 Latin American Culture in a Business Context	U	3
Introduction to the cultures, experiences, histories and definitions of Latino peoples in the United States; taught in English. Prereq: English 1110 (110) or equiv. Not open to students with credit for 242 or CompStd 2322 (242). GE cultures and ideas and diversity soc div in the US course. Cross-listed in CompStd 2322.					
2302 Spanish Conversation	U	3	2510 Mexican Studies	U	2
Intensive practice in conversation on selected topics. Only available through transfer credit or study abroad. Prereq: 1103.01 (103.01 & 104, or 111), or 1155 (103.66), or 2200H (104H), or equivalent with a grade of C- or higher. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.					
2320 Don Quixote in Translation	U	3	2520 Latin American Literature (in Translation): Fictions and Realities	U	3
Introductory critical reading of Don Quixote in English. Prereq: Not open to students with credit for 320. GE lit and diversity global studies course.					
2321 The Spanish Don Juan Theme in the Theatre	U	3	Critical examination of modern Latin American literature (in English translation), paying close attention to its own literary and cultural traditions. Taught in English. Credit does not apply toward a major or minor in Spanish. Prereq: Not open to students with credit for 520. GE lit and diversity global studies course.		
Introduction to the Don Juan theme from its origins in Renaissance Spain, through different versions, to the 20th century. Prereq: Not open to students with credit for 321. GE lit and diversity global studies course.					
2322 Spanish Society and the Arts	U	3	2797 Topics in Foreign Study	U	1 - 9
Introduction to Spanish art and its relationship to society, from Goya to Toral: a visual approach to culture. Prereq: Not open to students with credit for 322. GE VPA and diversity global studies course.					
2330 Reinventing America	U	3	Credit from study abroad for courses not offered by department. Not applicable to Spanish Major or Minor. Prereq: Permission of departmental study abroad advisor. Repeatable.		
Introduction to visual and verbal representation of Latin American multi-ethnic cultures through literature and visual arts; emphasis on construction of American identities and nations. Prereq: Not open to students with credit for 330. GE VPA and diversity global studies course.					
2331 Caribbean Cultures	U	3	2798.11 Bolivia: Cultures and Identities	U	3
The analysis of Caribbean societies and cultures; analysis of texts to unravel the cultural processes of creolite, negritude, cannibalism. Prereq: Not open to students with credit for 331. GE cultures and ideas and diversity global studies course.					
2332 Introduction to Andean and Amazonian Cultures	U	3	This interdisciplinary course introduces students to the History, Politics, Cultures, and Identities of Bolivia. It explores its main geographical regions; the heritage and traditions of its peoples; and the different political and cultural currents within the country and its different regions. Students will be encouraged to think critically about Bolivia, the U.S. and different global forces. Prereq: 4516 or permission of instructor. GE education abroad course.		
Historical formation of contemporary societies in the Andean and Amazonian regions, including their ethnic, social, and cultural features; taught in English. Prereq: Not open to students with credit for 332. GE cultures and ideas and diversity global studies course.					
2798.30 Madrid in the World, the World in Madrid: The Spanish Capital as a Global City, Past and Present	U	3	2798.30 Madrid in the World, the World in Madrid: The Spanish Capital as a Global City, Past and Present	U	3
This interdisciplinary Global May course offered with the Office of International Affairs (OIA) introduces students to the multicultural and global history of the city of Madrid, Spain through readings and films, site visits, and lectures by local scholars and residents. Enrollment in course contingent on acceptance to the program through OIA. GE education abroad course.					
2798.80 Latin America Study Tour	U	1	This short study tour offers students the opportunity to apply and expand on what they have learned in co-requisite coursework about the language, history & culture of Latin American through guided tours and outdoor activities. Faculty-led study abroad program offered through Newark campus only. Concur: 2151 or 1103.01; or permission of instructor. Repeatable to a maximum of 2 cr hrs.		

3401 Advanced Grammar	U	3	4461 Latino Urbanism and the Reinvention of the American City	U	3
In-depth examination of difficult points of Spanish grammar; emphasis on comprehension of key grammatical concepts in the language.			Interdisciplinary course that examines a new trend of urbanism based on the urban experiences of Latinos and the study of this group's social, economic, and cultural impact on cities across the US. Taught in English. Team-taught course cross-listed in Spanish & City and Regional Planning.		
Prereq: 2200 (104H), or 2202 (250), with a grade of C- or higher. Not open to students with credit for 4532 (601), 401, or 3401H (401H). FL Admis Cond course.			Prereq: Second-level writing course, and Jr or Sr standing, or permission of instructor. Not open to students with credit for CRPlan 4461. Cross-listed in CRPlan.		
3403 Intermediate Spanish Composition	U	3	4501.51 Advanced Spanish for the Professions: STEM	U	3
Spanish prose forms and practice in writing descriptive, narrative, and expository compositions.			Provides students in STEM disciplines with background about their majors in Spanish-speaking countries; teaches culturally and linguistically appropriate presentational skills. Special project required.		
Prereq: 2200 (104H), or 2202 (250), or 3401 (401) with a grade of C- or higher. May be taken concurrently with 3401 (401). Not open to students with credit for Spanish 4603 (603), 4613 (613), 403 or to native speakers of Spanish through regular course enrollment or EM credit. FL Admis Cond course.			Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.		
3403H Intermediate Spanish Composition	U	3	4515 Andean Art, Culture, and Society	U	3
Spanish prose forms and practice in writing descriptive, narrative, and expository compositions.			Representations of cultural, social, and literary identities in the Andean regions in early and modern societies' daily life as embodied in maps, narratives, art, photography, autobiographical and literary texts. Taught in English.		
Prereq: Honors standing, 2200 (104H), or 2202 (250), or 3401 (401). May be taken concurrently with 3401 (401). All pre-requisites must be completed with a grade of C- or higher and 3.4 GPA. Not open to students with credit for Spanish 4603 (603), 4613 (613), 403 or 403H or to native speakers of Spanish through regular course enrollment or EM credit. FL Admis Cond course.			4516 The Formation of Bolivian National Cultures	U	3
3404 Spanish Pronunciation	U	3	Overview of Bolivian literatures and cultures, and how they reflect the country's identities as well as its changing social, political, and cultural realities in the process of national formation. Taught in English.		
Practice with corrective exercises; some attention to problems of teaching pronunciation.			4534 Spanish Phonology	U	3
Prereq: 2200 (104H), or 2202.01 (250.01), or 2202.51 (250.51), or 3401 (401), or 3401H (401H). All pre-requisites must be completed with a grade of C- or higher. Not open to students with credit for Spanish 4534 (604), 4534H (604H), 404. FL Admis Cond course.			Analysis of the phonological structure of Spanish and a comparison with English; practical problems of teaching pronunciation.		
3406 Intermediate Business Spanish	U	3	Prereq: A grade of C- or above in 4430 (430) or 4430H (530H). Not open to students with credit for 604 or 604H. FL Admis Cond course.		
An introduction to business Spanish with emphasis on business terminology, commercial transactions, and international procedures.			4536 Language Change in Spanish	U	3
Prereq: 3403 (403), or 3403H (403H) with a grade of C- or higher. Not open to students with credit for 406. FL Admis Cond course.			Historical development of the Spanish language, including details of phonological, morphosyntactic, and semantic changes; external history; and changes currently in progress.		
3413 Spanish for Heritage Speakers	U	3	Prereq: A grade of C- or above in 4430 (430) or 4430H (530H). Not open to students with credit for 536. FL Admis Cond course.		
Covers, reviews and practices grammatical structure through language, literature, and culture of the Hispanic world, as well as incorporate the experiences of heritage speakers in the United States. Students will produce writing in various forms & genres, including literary responses, expository essays, & short stories (narrative).			4537 Spanish Psycholinguistics	U	3
Prereq: 2200H (104H) or 2202 (250), with a grade of C- or higher. Prereq or concur: 3401 (401); or permission of instructor. Not open to students with credit for 3403 (403), 4603 (603), or 4613 (613).			Overview of child language acquisition, second language acquisition and child and adult language disorders in Spanish-speaking populations.		
3450 Introduction to the Study of Literature and Culture in Spanish: Reading Texts	U	3	Prereq: A grade of C- or above in 4430 (430) or 4430H (530H). Not open to students with credit for 537. FL Admis Cond course.		
Strategies for reading literary and cultural texts from Spain and Spanish America.			4538 Language Variation in Spanish	U	3
Prereq: A grade of C- or above in 3403, 4613, or 4603. Not open to students with credit for 450 or 3450H (450H). FL Admis Cond course.			Survey of linguistic variation across the Spanish-speaking world, including geographical and social factors.		
3450H Introduction to the Study of Literature and Culture in Spanish: Reading Texts	U	3	Prereq: A grade of C- or above in 4430 (430) or 4430H (530H). Not open to students with credit for 538. FL Admis Cond course.		
Strategies for reading literary and cultural texts from Spain and Spanish America. 3450H (450H) required of all Honors Spanish majors and minors.			4551 Spanish Golden Age Literature	U	3
Prereq: Honors standing; and a grade of C- or above in 3403, or 4613, or 4603; and GPA 3.4 or above. Not open to students with credit for 450 or 450H. FL Admis Cond course.			Introductory critical study of major literary works from the 16th and 17th centuries in Spain.		
3570 CLLC Radio	U	3	Prereq: A grade of C- or above in 3450 (450). Not open to students with credit for 551, 551H, or 551E. FL Admis Cond course.		
Student partners prepare 3 target language broadcasts, each 1 hour in length. Broadcasts stream live over the Internet, then become podcast for public use. Student "DJs" conduct target language research on radio broadcast history and at least 15 thematic topics and related music that interests them. Students choose their music and content with approval and guidelines, then produce scripts.			4551E Spanish Golden Age Literature	U	3
Prereq: Permission of instructor.			Introductory critical study of major literary works from the 16th and 17th centuries in Spain.		
4193 Individual Studies	U	1 - 9	Prereq: Honors standing; and a grade of C- or above in 3450H (450H); and GPA 3.4 or above. Not open to students with credit for 551, 551H, or 551E. FL Admis Cond course.		
Individual studies.			4552 Modern Spanish Literature	U	3
Prereq: A grade of C- or above in 3450 (450). Repeatable. This course is graded S/U.			Introductory critical study of major literary works from the 18th century to the present in Spain.		
4194 Group Studies	U	1 - 9	Prereq: Honors standing; and a grade of C- or above in 3450H (450H); and GPA 3.4 or above. Not open to students with credit for 552 or 552H. FL Admis Cond course.		
Group studies.			4552H Modern Spanish Literature	U	3
Prereq: A grade of C- or above in 3450 (450), and permission of instructor. Repeatable. This course is graded S/U. FL Admis Cond course.			Introductory critical study of major literary works from the 19th century to the present in Spain.		
4430 Introduction to Spanish Linguistics	U	3	Prereq: Honors standing; and a grade of C- or above in 3450H (450H); and GPA 3.4 or above. Not open to students with credit for 552 or 552H. FL Admis Cond course.		
Introduction to the analysis of Spanish from the perspective of modern linguistic theory.			4555 Indigenous, Colonial, & National Literatures and Cultures of Spanish America	U	3
Prereq: A grade of C- or above in 3401 (401), or 3401H (401H) and 3404 (404). Not open to students with credit for 4534 (604), 4534H (604H), 4430H (530H), or 430. FL Admis Cond course.			Introductory critical study of issues and processes in the formation of indigenous, colonial, and national expression through 19th century regional discourses.		
4430H Honors Introduction to Spanish Linguistics	U	3	Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 555. FL Admis Cond course.		
Introduction to the analysis of Spanish from the perspective of modern linguistic theory.			4555E Indigenous, Colonial & National Literatures and Cultures of Spanish America	U	3
Prereq: Honors standing, and a grade of C- or above in 3401 (401), or 3401H (401H) and 3404 (404), and GPA 3.4 or above. Not open to students with credit for 4534, 430, or 530H. FL Admis Cond course.			Introductory critical study of issues and processes in the formation of indigenous, colonial, and national expression through 19th century regional discourses.		

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4556 Modern Spanish American Literature	U	3	4581 Spanish Film	U	3			
Introductory critical study of issues and processes in Spanish American writing from Modernism through the present.								
Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 556. FL Admis Cond course.								
4557.10 Introduction to Latino Literature in the U.S.	U	3	4590H Interdisciplinary Protocols: Identity and National Formation in Latin America: Perspectives from Lit	U	3			
Introductory critical study of authors, topics, and movements in Latino literature from the late 19th century to the present.								
Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 557. FL Admis Cond course.								
4557.20 Introduction to Other Latino Literature in the U.S.	U	3	4595.01 Special Topics in Foreign Study	U	1 - 9			
Study of works by "other Latino" writers, that is, authors from less represented groups within the larger Latino population in the U.S. The "other Latino" writers are part of the new migratory flows between the U.S. and Latin America. Their literary production complements the Latino experience represented by Chicano, Puerto-Rican, and Cuban-American authors.								
Prereq: 3450 (450) or 3450H (450H).								
4560 Introduction to Spanish American Culture	U	3	4595.02 Special Topics in Foreign Study	U	1 - 9			
Major elements in the culture of the peoples of Spanish America.								
Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 560 or 560H. FL Admis Cond course.								
4560H Introduction to Spanish American Culture	U	3	4595.03 Special Topics in Foreign Study	U	1 - 9			
Major elements in the culture of the peoples of Spanish America.								
Prereq: Honors standing; and a grade of C- or above in 3450H; and GPA 3.4 or above. Not open to students with credit for 560 or 560H. FL Admis Cond course.								
4561 Introduction to the Culture of Spain	U	3	4603 Advanced Spanish Composition	U	3			
Major developments in the culture of Spain.								
Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 561 or 561H. FL Admis Cond course.								
4561H Introduction to the Culture of Spain	U	3	4606 Advanced Business Spanish	U	3			
Major developments in the culture of Spain.								
Prereq: Honors standing; and a grade of C- or above in 3450H; and GPA 3.4 or above. Not open to students with credit for 561 or 561H. FL Admis Cond course.								
4564 Spanish Culture During Francoism	U	3	4610 Contrastive Structures of Spanish and English	U	3			
Panoramic view of the culture of Spain during the dictatorship of Franco. Use of literary and filmic productions of that period as representations of the historical, social, political & economic experiences Spain lived during those years.								
Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). FL Admis Cond course.								
4565H Latin American Indigenous Literatures and Cultures	U	3	4689S Translation and Interpreting in the Latino Community	U	3			
Introduction to continuities and transformations that link Latin American colonial indigenous texts with contemporary cultural expression.								
Prereq: Honors standing; and a grade of C- or above in 3450H; and GPA 3.4 or above. Not open to students with credit for 565H. FL Admis Cond course.								
4567 Spanish Mosaic: Catalonia, Basque Country, Galicia and Andalusia	U	3	4998 Undergraduate Research in Spanish	U	1 - 9			
Explores the fragmentation and renegotiation of Spanish cultural and political identity in tension with its peripheral "nations": Catalonia, Basque Country, Galicia, Andalusia.								
Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 567 or 567H. FL Admis Cond course.								
4567H Spanish Mosaic: Catalonia, Basque Country, Galicia and Andalusia	U	3	4998H Honors Research	U	1 - 9			
Explores the fragmentation and renegotiation of Spanish cultural and political identity in tension with its peripheral "nations": Catalonia, Basque Country, Galicia, Andalusia.								
Prereq: Honors standing; and a grade of C- or above in 3450H (450H); and GPA 3.4 or above. Not open to students with credit for 567 or 567H. FL Admis Cond course.								
4568 Catalan Cultures	U	3	4999 Research for Thesis	U	1 - 9			
Critical analysis of the Catalan political history as it relates to its social and cultural history. We will address the ideological, linguistic, and political difficulties of defining Catalan cultures as separate from other cultures of other autonomous communities in the Iberian Peninsula. The course includes discussions on the current political debate surrounding Catalonia's independence.								
Prereq: 3450 (450) or 3450H (450H).								
4570 Latin Soundscapes: Musical Cultures of Latin America	U	3	4999H Honors Research	U	1 - 9			
Since colonial times, the Latin American region has produced a wealth of musical genres, styles, hybrids, & fusions that allows for exploration of relevant social, cultural, economic, and political issues. This course surveys the richness, diversity, & representation of Latin American music through selection of musical, literary, filmic, & historical texts.								
Prereq: A grade of C- or above in 3450 (450) or 3450H (450H).								
4580 Latin American Film	U	3	5201 Spanish in the Health Professions					
Study of Latin American film; special attention is paid to the relationship between film and the society in which it is produced.								
Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 580. FL Admis Cond course.								

5389 US Latino Languages and Communities
U G 3

We discuss the diversity of Latino experiences and the central role of language in the development of a "Latino" identity, as well as its role in local understandings of ethnicity, gender, and social class. Theoretical concepts include language ideologies, identity, and critical approaches to race and ethnicity. Previous coursework in Latino Studies and/or Sociolinguistics is desirable.

Prereq: 4430 (430), 4430H (430H), or equiv., or Grad standing, or permission of instructor.

5501.10 AmerIndian Languages & Cultures (Study Abroad)
U G 1 - 9

AmerIndian languages and cultures (e.g., Guarani, Aymara) offered in study abroad programs. May count toward UG Spanish or Portuguese major/minor by petition. Graduate students must consult with their Program Advisor and complete any documentation required by their program of enrollment. Course may be taught in Target Language, Spanish or English.

Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs or 4 completions.

5501.20 AmerIndian Languages & Cultures (Domestic)
U G 1 - 9

AmerIndian languages and cultures (e.g., Guarani, Aymara) offered through OSU or another domestic institution. May count toward the UG Spanish or Portuguese major/minor by petition. Graduate students must consult with their Program Advisor and complete any documentation required by their program of enrollment. Course may be taught in Target Language, Spanish or English.

Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs or 4 completions.

5620 Gender and Power in the Americas
U G 3

Taught in Spanish, the course focuses on the interpretation of gender and power in hemispheric Latin American and U.S. Latino/a cultural production. The seminar promotes inquiry in the areas of gender and power, performance studies, and the problems and prospects of Latinos as peoples shaped by the legacies of colonial, neoliberal, and patriarchal social orderings.

Prereq: 3450.

5630 Seminar in Spanish Linguistics
U G 3

Intensive study of major topic in Hispanic linguistics. Topics vary: e.g., the Spanish pronominal system, American Spanish dialectology, Spanish orthography. Required for students completing the Hispanic Linguistics track of the Spanish Major.

Prereq: A grade of C- or above in 4430 (430) or 4430H (530H), plus any two of: 4532 (601), 4534 (604), 4534H (604H), 4536 (536), 4537 (537), 4538 (538), 4595.01 (595), or 4610 (610). Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

5640 Globalization and Latin America: Multi-disciplinary Approaches
U G 3

Explores current debates on globalization in Latin America and recent and interrelated transformations in the economies, politics, and cultures of the region.

Prereq: A grade of C- or above in 3450 (450) or 3450H (450H), or Grad standing. Not open to students that have credit for 640 or IntStd 640. Cross-listed in IntStd.

5650 Seminar in Iberian Literatures and Cultures
U G 3

Intensive study of a major theme, author, literary, or cultural problem related to the Iberian Peninsula. Required for students completing the Iberian track of the Spanish major.

Prereq: A grade of C- or above in 3450 (450) or 3450H (450H), plus any two of: 4551 (551), 4551E (551E), 4552 (552), 4552H (552H), 4561 (561), 4561H (561H), 4564 (564), 4567 (567), 4567H (567H), 4581 (581), or 4595.02 (595). Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

5660 Seminar in Latin American Literatures and Cultures
U G 3

Intensive study of a major theme, author, literary or cultural problem related to Latin America. Required for students completing the Latin American track of the Spanish major.

Prereq: A grade of C- or above in 3450 (450) or 3450H (450H), plus any two of: 4555 (555), 4555E (555E), 4556 (556), 4557 (557), 4560 (560), 4560H (560H), 4565H (565H), 4580 (580), 4590H (590H), 4595.03 (595), or 5640 (640). Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

5680.03 Honors Seminar in Latin American Literatures and Cultures
U G 3

Intensive study of topics in Latin American literatures and cultures with an emphasis on developing research skills; topic varies.

Prereq: Honors standing, and a grade of C- or above in 3450H, and a grade of C- or above in any two of the following: 4555 (555), 4555E (555E), 4556 (556), 4557 (557), 4560 (560), 4560H (560H), 4565H (565H), 4580 (580), 4590H (590H), 4595.03 (595), or 5640 (640), and a GPA 3.4 or above. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

5689S Spanish in Ohio: An Experiential Course
U G 3

Interaction with Hispanic communities in Ohio; intensive & extensive practice with Spanish as spoken by native speakers from the U.S. & abroad. Not open to native speakers of Spanish unless their secondary education was completed in the United States.

Prereq: Any course at the Spanish 4000-level (500-level) in Literatures and Cultures taught in the Spanish language, or permission of instructor. Not open to students with credit for 689. FL Admis Cond course.

5797 Study at a Foreign Institution
U G 1 - 9

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Prereq: Not open to students with credit for 697. Repeatable. This course is progress graded.

6700 Introduction to Literary and Cultural Analysis
G 3

Introduction to literary and cultural theory and methods of analysis; emphasis on the study and articulation of critical concepts. Intended for beginning graduate students; may be taken by advanced undergraduates with permission of instructor.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 702.

6705 Introduction to Latino Studies
G 4

Introduces graduate students to the broad themes, concepts, and questions raised in the interdisciplinary field of Latina/Latino studies.

Prereq: Grad standing, or permission of instructor and approved petition to the Graduate School. Not open to students with credit for 705, ArtsSci 705, or CompStd 6425 (705). Cross-listed in CompStd 6425.

7193 MA Exam Preparation
G 1 - 9

Independent study to prepare for an upcoming MA examination.

Prereq: Permission of instructor. Repeatable. This course is progress graded (S/U).

7320 Spanish Syntax and Semantics
G 3

Introduction to structural and semantic characteristics of Spanish in light of recent theoretical frameworks in linguistics.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 732.

7340 Spanish Phonology and Morphology
G 3

Introduction to phonological and morphological characteristics of Spanish in light of recent theoretical frameworks in linguistics.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 734.

7360 History of the Spanish Language
G 3

Basic concepts of historical linguistics: the major factors of change in the history of the Spanish language from Latin to the present.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 736.

7380 Spanish Sociolinguistics
G 3

Introduction to the analysis of linguistic and social factors which contribute to variation in modern Spanish.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 738.

7410 Mapping Medieval and Renaissance Iberian Literatures and Cultures
G 3

Study of significant socio-cultural moments, issues, problematics, and concepts in Iberian literatures and cultures from the medieval period to the 18th century.

Prereq: Grad standing, or permission of instructor.

7430 Mapping Modern and Contemporary Iberian Literatures and Cultures
G 3

Study of significant socio-cultural moments, issues, problematics, and concepts in Iberian literatures and cultures from the 18th century to the contemporary period.

Prereq: Grad standing, or permission of instructor.

7450 Mapping Indigenous, Colonial, and 19th-Century Latin American Literatures and Cultures
G 3

Study of significant socio-cultural moments, issues, problematics, and concepts in Latin American literatures and cultures from the pre-colonial to the national period.

Prereq: Grad standing, or permission of instructor.

7470 Mapping Modern and Contemporary Latin American Literatures and Cultures
G 3

Study of significant socio-cultural moments, issues, problematics, and concepts in Latin American literatures and cultures from the late 19th century to the contemporary period.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 760.

7510 Studies in Medieval Iberia
G 3

In-depth study of a major topic or problem in Medieval Iberia.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

7520 Studies in Renaissance and Baroque Iberia
G 3

In-depth study of a major topic or problem in 16th- and 17th-century Iberian literatures and cultures.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

7530 Studies in Modern Iberian Literatures and Cultures
G 3

In-depth study of a major topic or problem in 18th- to 20th-century Iberian literatures and cultures.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

7540 Studies in Contemporary Iberian Literatures and Cultures
G 3

In-depth study of a major topic or problem in 20th- and 21st-century Iberian literatures and cultures.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

7550 Studies in Indigenous and Colonial Latin American Literatures and Cultures
G 3

In-depth study of a major topic or problem in indigenous and colonial Latin American literatures and cultures.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

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7560	Studies in Independence and 19th-Century Latin American Literatures and Cultures	G	3	8330	Studies in Spanish Synchronic Linguistics	G	3
In-depth study of a major topic or problem in Latin American literatures and cultures of the independence period and the 19th century.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.				Investigation of selected topics in synchronic Spanish linguistics (formal problems in Spanish phonology, morphology, syntax, semantics, and lexicology). Individual topics not repeatable.		
7570	Studies in Modern Latin American Literatures and Cultures	G	3		Prereq: 7320 (732) or 7340 (734) (depending on topic), or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
In-depth study of a major topic or problem in Latin American literatures and cultures of the modern period from approximately 1880 to 1950.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.				8340	Studies in Synchronic Spanish Phonetics, Phonology and Morphology	G
7580	Studies in Contemporary Latin American Literatures and Cultures	G	3			3	
In-depth study of a major topic or problem in contemporary Latin American literatures and cultures.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.				Investigation of theoretical concepts in phonetics, phonology, and morphology and how they have been applied to the analysis of the Spanish language.		
7590	Comparative Topics in Spanish and Spanish American Literature and Culture	G	3		Prereq: 7340 (734), or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
In-depth study of a major topic comparing Spanish and Spanish American literatures.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.				8360	Studies in Spanish Historical Linguistics	G
7595	Comparative Topics in Luso-Hispanic Literature and Culture	G	3			3	
In-depth study of a major topic comparing the literatures and cultures of the Portuguese- and Spanish-speaking worlds.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.				Study of selected problems of Old Spanish linguistic description and diachronic evolution of Spanish.		
7650	Topics in Latin American Cultures	G	3		Prereq: 7360 (736), or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
Analysis of Latin American culture through the study of selected topics in literature, film, and the arts; topics vary.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs.				8370	Studies in Spanish Psycholinguistics	G
7660	Topics in Iberian Cultures	G	3			3	
Analysis of Iberian cultures through the study of selected topics in literature, film, and the arts; topics vary.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs.				Studies in child language acquisition, second language acquisition and child and adult language disorders in Spanish-speaking populations.		
7780.22	Andean Music Ensemble	G	½ - 1		Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
In this course students learn to play and perform music from Bolivia, Peru, Ecuador, Chile, Colombia and Argentina. The course explores various musical genres within the Andean region. Students study techniques and methods for playing Andean instruments and learn to sing in Spanish, Quechua and Aymara.							
	Repeatable to a maximum of 10 cr hrs or 10 completions. Cross-listed in Music.				8380	Studies in Spanish Sociolinguistics	G
7800	Latin American Film	G	3			3	
Study of Latin American film focusing on historical periods, dominant genres, distinguished directors, and relation of film to larger social, cultural and political dynamics.							
	Prereq: Grad standing, or permission of instructor. Not open to students with credit for 780.				Study of selected topics in Spanish sociolinguistics, for example: syntactic variation, discourse analysis.		
7801	College Teaching of Spanish and Portuguese	G	3		Prereq: 7380 (738), or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
Methods and techniques for teaching Spanish and Portuguese language at the college level. Three-week intensive workshop prior to beginning of semester followed by a 2-hr seminar during semester. Course does not count towards degree.							
	Prereq: Teaching associate in Spanish and Portuguese, or permission of instructor. Not open to students with credit for 801 or 6801.				8390	Seminar in Spanish Linguistics	G
7810	Spanish Film	G	3			3	
Study of Spanish film focusing on historical periods, dominant genres, distinguished directors, and relation of film to larger social, cultural, and political dynamics.							
	Prereq: Grad standing, or permission of instructor.				Collaborative investigation of specific problems in Spanish linguistics (synchronic and historical, formal, and applied topics). Individual topics not repeatable.		
7880	Interdepartmental Studies	G	1 - 3		Prereq: 8330 (833) or 8360 (836), or permission of instructor. Repeatable to a maximum of 12 cr hrs.		
Two or more departments present colloquia on subjects of mutual interest; topics to be announced.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions.				8510	Seminar in Medieval Iberia	G
8193.01	Individual Studies	G	1 - 9			3	
Independent Study of a focused problem or topic in the various fields of Iberian and Latin American literatures and cultures and Hispanic Linguistics.							
	Prereq: Permission of instructor. Repeatable. This course is progress graded (S/U).				Detailed exploration of advanced issues in Medieval Iberia.		
8193.02	PhD Exam Preparation	G	1 - 9		Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.		
Independent study to prepare for an upcoming PhD examination.							
	Prereq: Permission of instructor. Repeatable. This course is graded S/U.				8520	Seminar in Renaissance and Baroque Iberia	G
8194	Group Studies	G	1 - 9			3	
Group study of a focused problem and topic in the various fields of Iberian and Latin American literatures and cultures and Hispanic Linguistics.							
	Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.				Detailed exploration of advanced issues in 16th- and 17th-century Iberian literatures and cultures.		
8320	Studies in Synchronic Spanish Syntax, Semantics and Pragmatics	G	3		Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.		
Investigation of theoretical concepts in syntax, semantics, and pragmatics and how they have been applied to the analysis of the Spanish language.							
	Prereq: 7320 (732), or permission of instructor. Repeatable to a maximum of 12 cr hrs.				8530	Seminar in Modern Iberian Literatures and Cultures	G
						3	
Detailed exploration of advanced issues in Iberian literatures and cultures of the 18th to 20th centuries.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.				8540	Seminar in Contemporary Iberian Literatures and Cultures	G
						3	
Detailed exploration of advanced issues in 20th- and 21st-century Iberian literatures and cultures.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.				8550	Seminar in Indigenous and Colonial Latin American Literatures and Cultures	G
						3	
Detailed exploration of advanced issues in indigenous and colonial Latin American literatures and cultures.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.				8560	Seminar in Independence and 19th-Century Latin American Literatures and Cultures	G
						3	
Detailed exploration of advanced issues in Latin American literatures and cultures of the independence period and the 19th century.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.				8570	Seminar in Modern Latin American Literatures and Cultures	G
						3	
Detailed exploration of advanced issues in Latin American literatures and cultures of the modern period from approximately 1880 to 1950.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.				8580	Seminar in Contemporary Latin American Literatures and Cultures	G
						3	
Detailed exploration of advanced issues in contemporary Latin American literatures and cultures.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.				8590	Seminar in Comparative Spanish and Spanish American Literature and Culture	G
						3	
Detailed exploration of advanced issues comparing Spanish and Spanish American literatures.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.				8595	Seminar in Comparative Luso-Hispanic Literature and Culture	G
						3	
Detailed exploration of advanced issues comparing the literatures and cultures of the Portuguese- and Spanish-speaking worlds.							
	Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.						

8650 Seminar in Latin American Cultures	G	3	4420 Anatomy, Physiology and Science of Speech	U	3
Intensive exploration of a cultural period, topic, or problem; topic varies. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.			Anatomy and physiology of the structures involved in speech production and the acoustic characteristics of speech sounds. Prereq: 3320 (320), or equiv course in Phonetics, and Biology 101, 102, 113, 114, 115H, or 116H. Not open to students with credit for 420.		
8660 Seminar in Iberian Cultures	G	3	4430 Introduction to Language Science and Language Disorders	U	3
Intensive exploration of a cultural period, topic or problem; topic varies. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.			Foundational to understanding normal/disordered language development or language altered by neurological disorders is the structure of language and associated cognitive processes. This course will associate the structure of language to principles in the assessment of language/disorders and treatment of language disorders, developmental and acquired, across the life span. Prereq: 2230 (230) or 3330 (330) or equiv, or permission of instructor.		
8780 Research Methods and Design	G	3	4440 Anatomy, Physiology, and Science of Hearing	U	3
Introduction to research methods and design in Iberian and Latin American literatures and cultures. Required course for Literature and Culture PhD programs. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 803.			The anatomical properties and physiological processes of the system of hearing and balance in humans and the stimulus processing capabilities of the normal auditory system. Prereq: 3340 (340) or equiv, and Biology 1101 (101), 1102 (102), 1113 (113), or 1114 (114); or permission of instructor. Not open to students with credit for 440.		
8800 Seminar in Literary and Cultural Theory	G	3	4510 Disability Studies in Context	U	3
Intensive study of special topics in literary and/or cultural theory with attention to their relationship to Iberian and Latin American literatures and cultures. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.			The history, nature, meaning, and consequences of disability from the differing viewpoints of a range of academic disciplines and professions. Prereq: Not open to students with credit for 510.		
8890 Publication Workshop	G	3	4520 Introduction to Clinical Methods in Speech-Language Pathology	U	3
Revision and expansion of a seminar paper for potential publication in an academic journal, based on feedback from instructor and classmates. This course is progress graded (S/U).			Etiology, appraisal, and management of disorders of speech and language in children and adults. Prereq: 3320, 3330, and 4420, or equiv, or permission of instructor.		
8893 Hispanic Linguistics Colloquium	G	1	4530 Introduction to Autism	U	3
Forum for presentation of research in Hispanic linguistics; introduction to professional issues in workshop format. Repeatable to a maximum of 15 cr hrs. This course is progress graded (S/U).			This course provides an overview of the identification and diagnosis of autism, scientific perspectives on etiology, and the neurobiological underpinnings of autism, as well as treatment components of autism.		
8894 Literatures and Cultures Colloquium	G	1	4540 Introduction to Audiology	U	3
Forum for presentation of research in Iberian and Latin American literatures and cultures; introduction to professional issues in workshop format. Repeatable to a maximum of 15 cr hrs. This course is progress graded (S/U).			The nature, causes, identification, and rehabilitative treatment of persons with hearing disorders. Prereq: 4440 (440), or equiv. Not open to students with credit for 540.		
8999 Research for Dissertation	G	1 - 9	4999 Baccalaureate Research and Thesis	U	2 - 10
Research for dissertation purposes only. Repeatable to a maximum of 99 cr hrs. This course is progress graded (S/U).			A program of directed independent study for the academically strong student with an interest in research and the desire to complete a thesis. Prereq: GPA 3.4 or above in SphHrng, and Jr or Sr standing, and permission of the instructor. Not open to students with maximum cr hrs in 4999H or 783H. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.		

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2194 Group Studies	U	1 - 3	4999H Honors Research and Thesis	U	2 - 10
Designed to give groups of students an opportunity to pursue special studies not otherwise offered. Prereq: Permission of instructor. Not open to students with 5 cr hrs of 294. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.			A program of independent study for the student with special aptitudes; individual conferences and reports, leading to the completion of the Honors thesis. Prereq: SphHrng GPA 3.4 or above, Sr. standing, permission of the instructor and permission of the ASC Honors Committee. Not open to students with 15 qtr or hrs in 783H. Repeatable to a maximum of 10 or hrs or 5 completions. This course is graded S/U.		
2230 Introduction to Communication and Its Disorders	U	3	5193 Individual Studies	U G	1 - 3
Survey of the topics, methodologies, and applications of speech and hearing science in normal and aberrant communication; lectures and readings. Prereq: Not open to students with credit for 230.			Conference, library, and laboratory work. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.		
3320 Principles of Phonetics	U	3	5605 Multicultural Aspects of Communication	U G	3
Provides articulatory and acoustic descriptions of speech sounds and a comparative study of phonetic transcription systems. Prereq: Not open to students with credit for 320.			Examination of normal communicative behavior, including development, and the assessment and management of speech-language-hearing disorders of culturally and linguistically diverse populations. Prereq: 3330 (330), Ling 3601 (303), or 3602 (372), or equiv, or permission of instructor. Not open to students with credit for 605.		
3330 Language Acquisition	U	3	5714 Introduction to Sign Language	U G	3
Introduction to language acquisition in normal children. Prereq: Not open to students with credit for 330 or 430. GE soc sci indivs and groups course.			Introductory course in manual sign language systems. Prereq: Not open to students with credit for 714.		
3330H Language Acquisition	U	3	5732 Introduction to Aural Rehabilitation I	U G	3
Introduction to language acquisition in normal children. Prereq: Honors standing or permission of instructor. Not open to students with credit for 3330 (330), 330H, or 430. GE soc sci indivs and groups course.			Assessment and management of communication disorders associated with hearing loss. Prereq: 4540 (540), or permission of instructor. Not open to students with credit for 734.		
3340 Introduction to the Art and Science of Sound	U	3	5741 Voice Disorders and Cleft Palate	U G	3
Designed to teach the basic principles of acoustics to undergraduate students in the Arts and Sciences who have had little previous experience with math or biological and physical sciences. The student should gain an appreciation of the concepts underlying the generation, transmission and measurement of sound waves traveling through air. Prereq: Not open to students with credit for 340.			Advanced studies of anatomy and physiology of the vocal tract with clinical emphasis on assessment and treatment of voice disorders, laryngectomy, and cleft lip and/or palate. Prereq: Grad standing in SphHrng or permission of instructor. Not open to students with credit for 741.		
3350 Speech-Language Communication Across the Life Span: Issues and Problems in Our Communities	U	3	5760 Neurology of the Speech and Hearing Mechanism	U G	3
Exploration of the development of communication skills throughout the life span and the consequences of communication disorders for individuals, their families, and their communities. Prereq: Not open to students with credit for 350. GE soc sci indivs and groups course.			Introduction to neuroanatomy and neuroscience for undergraduates in the Speech and Hearing Science major or those planning to apply for graduate school in speech-language pathology or audiology. The course includes discussion of the sensory and motor nervous systems at the cellular and system levels. Prereq: Biology 1101 (101) or above. Not open to students with credit for 765.		
3360 Observation in Speech-Language Pathology and Audiology	U	3			
Observation in appraisal and treatment of communication disorders. Prereq: 2230 (230). Not open to students with credit for 360. This course is graded S/U.					

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5785 Research Methods I	U G 3	6735 Hearing Aids I	G 3
Introduction to research design and data analysis for the hearing and speech sciences. Prereq: Grad standing or permission of instructor. Not open to students with credit for 785.			
5891 Proseminar in Cognitive Science	U G 2	6740 Fluency: Theory and Treatment	G 3
Provides an in-depth examination of cognitive science from an interdisciplinary perspective. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs. Cross-listed in CSE, Ling, Philos, and Psych.			
6143 Professional Issues I	G 2	6742.01 Clinical Seminar in Speech and Language Disorders I: Fundamentals of Treatment Designs	G 3
Consideration is given to the audiology scope of practice, health privacy issues, and the role of professional organizations. Prereq: Requires acceptance in AuD program. First year AuD students only. Not open to students with credit for 643.01. This course is graded S/U.			
6150 The SLPs Role Working with Individuals with Autism	G 3	6742.02 Clinical Methods in Speech Language Disorders: Specialized Topics in Treatment Designs	G 3
This course is designed to provide students with knowledge in the area of autism by integrating research results with clinical practice. Implications for assessment and treatment for individuals with autism will be discussed. Prereq: Grad standing, and coursework in language development, or permission of instructor.			
6170 Clinical and Educational Methods in the Schools	G 2	6742.03 Clinical Methods in Speech and Language Disorders: Advanced Topics	G 1
Models, strategies, methodologies, and curriculum involved in planning, implementing, and evaluating team-based instruction for students with communication, language, and learning disabilities. Prereq: Grad standing in SphHrng; or permission of instructor. Not open to students with credit for 670.			
6189 Field Experience in the Schools	G 4 - 8	6761 Cognitive Communication Disorders in Adults	G 3
Major practicum experience for students pursuing certification to practice speech/language pathology in schools. Prereq: Grad standing in SphHrng, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 2 completions. This course is graded S/U.			
6194 Group Studies	G 1 - 2	6762 Language Disorders in Adults	G 3
Designed to give groups of students an opportunity to pursue advanced studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 7 cr hrs or 7 completions. This course is graded S/U.			
6243 Professional Issues II	G 2	6763 Motor Speech Disorders	G 3
Discussion centers on ethical practices and licensure issues in audiology. Issues related to counseling, voluntary credentials, and professional advocacy are considered. Prereq: Requires acceptance in AuD program. Not open to students with credit for 643.02. This course is graded S/U.			
6705 Audiologic Assessment I	G 3	6764 Evaluation and Treatment of Dysphagia in Adults and Children	G 3
Detailed treatment of the theoretical and practical aspects of standard audiologic assessment. Prereq: Not open to students with credit for 705.			
6706 Audiologic Assessment II	G 3	6766 Acoustics and Instrumentation	G 3
Detailed treatment of the theoretical and practical aspects of the physiologic evaluation of the auditory system using immittance and otoacoustic emissions. Prereq: 6705 (705). Not open to students with credit for 706.			
6707 Audiologic Assessment III	G 3	6775 Anatomy and Physiology of the Auditory System	G 4
Study of the techniques involved in the administration and interpretation of electronystagmography, rotation, and posturography assessments. Prereq: 6706 (706). Not open to students with credit for 750.			
6708 Audiologic Assessment IV	G 3	The structure, function, and stimulus processing capacities of the ear and central auditory pathways as they relate to performance on tests of auditory function in normal and impaired listeners. Prereq: Not open to students with credit for 775.	
6710 Speech Sound Disorders in Children	G 3	6786 Statistics in Speech and Hearing Science	G 3
Approaches to understanding the nature and clinical management, especially assessment and treatment, of speech sound disorders in children and youth. Prereq: Grad standing in Speech and Hearing Science, or permission of instructor. Not open to students with credit for 710.			
6725 Language Acquisition and Early Intervention in Language Delay	G 3	6843 Practicum in Audiology	G 3
Development of language in children with an emphasis on the interaction between the development of language and cognition with implications for delay. The emphasis is on children aged zero to five years. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 725.			
6726 Child Language Disorders: Assessment	G 3	Students are placed in local audiology clinics to put into practice skills learned in the classroom. Prereq: Successful completion of AuD qualifying examination. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.	
Assessment and treatment of language disorders in preschool and school-aged children; both norm-referenced and criterion-referenced. The emphasis is on school-aged children. Prereq: 6725 (725). Not open to students with credit for 726.			
6733 Adult Audiologic Rehabilitation	G 3	6844 Practicum in Communication Disorders	G 1 - 2
The impact of hearing loss on social, vocational, and psychological well-being. Treatment options and measures of treatment outcome. Prereq: Not open to students with credit for 733.			

6850 Advanced Hearing Science

G 4

This course is designed to provide beginning graduate students with an understanding of the measurement of stimuli and responses commonly used in clinical and experimental hearing testing.

Prereq: Grad standing; or permission of instructor, and approved petition to the Graduate School. Not open to students with credit for 6766 or 6858.

6858 Introduction to Auditory Neuroscience

G 3

Theoretical concepts and psychophysical data relative to hearing and related laboratory experiments.

Prereq: Not open to students with credit for 858 or 5858.

6860 Augmentative Communication

G 3

This lecture course is designed to provide students with knowledge in the areas of augmentative communication/augmentative & alternative communication (AAC). The course will explore the assessment and management of people requiring augmentative communication secondary to a variety of diagnoses.

Prereq: 6725, Grad standing, or permission of instructor.

7143 Clinical Seminar in Hearing Disorders: Hearing Aid Applications

G 1

Readings and discussion of topics pertinent to the assessment and treatment of hearing disorders.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 743. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

7193 Directed Doctoral Studies

G 1 - 6

Directed, individualized areas of study for doctoral students in either the laboratory or clinical research tracks; conference, library, clinic and/or laboratory involvement.

Prereq: Doctoral standing in SphHrng, or permission of instructor. Repeatable to a maximum of 30 cr hrs or 20 completions. This course is graded S/U.

7243 Clinical Seminar in Hearing Disorders: Ethics & Evidence Based Practice

G 1

Readings and discussion of topics pertinent to the assessment and treatment of hearing disorders.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 743. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

7343 Clinical Seminar in Hearing Disorders: Counseling and Report Writing

G 1

Readings and discussion of topics pertinent to the assessment and treatment of hearing disorders.

Prereq: Grad standing; or permission of instructor. Repeatable to a maximum of 2 cr hrs or 2 completions. This course is graded S/U. Not open to students with credit for 743.

7717 Interdisciplinary Perspective on Developmental Disabilities

G 3

Provides an introduction to the psychosocial, medical, and educational implications of developmental disabilities.

Prereq: Permission of instructor. Not open to students with credit for 717.01 or 717.03. Cross-listed in HthRhSc, EducSt, SocWork, Nursing, and Psych.

7718 Interdisciplinary Perspective on Autism Spectrum Disorders

G 3

Teaches the analytical skills necessary to comprehend and formulate an interdisciplinary framework relating to major scientific and theoretical perspectives in autism spectrum disorders.

Prereq: Permission of instructor. Not open to students with credit for 717.01 and 717.02. Cross-listed in HthRhSc, EducSt, SocWork, Nursing, and Psych.

7742 Advanced Clinical Seminar in Speech and Language Disorders

G 1

Readings and discussion of topics pertinent to the assessment and treatment of speech and language disorders and to preparation for the professional life in Speech-Language Pathology. Prereq: 2 or more sem cr hrs in 6742, or 3 or more qtr cr hrs in 744; and Grad standing in SphHrng. Not open to students with 9 or more qtr cr hrs in 744. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.

7805 Pediatric Audiology I

G 3

Etiology and assessment of hearing loss in children.

Prereq: 6707 or 707. Not open to students with credit for 805.

7806 Adult Hearing Disorders

G 3

The nature, diagnosis, and treatment recommendations of adult hearing disorders.

Prereq: 5705, 6706, 6707, or equiv. Not open to students with credit for 806.

7807 Pediatric Audiology II

G 4

The aural rehabilitation process in children, educational policy for children with hearing loss, and assessment and treatment of children with central auditory processing disorders.

Prereq: 6735, 7805, 7835. Not open to students with credit for 807.

7820 Acoustic Phonetics

G 3

An introduction to the acoustic characteristics of human speech sounds, the acoustic theory of speech production, and spectrographic analysis.

Prereq: Grad standing in Speech and Hearing Science, or permission of instructor. Not open to students with credit for 820.

7825 Speech Perception in the Normal and Impaired Ear

G 3

This course is a graduate seminar-format course in speech and hearing science. We will discuss the auditory processing of speech sounds and examine the ramifications of hearing loss and cochlear implantation on this processing.

Prereq: Grad standing in SphHrng, or permission of instructor. Not open to students with credit for 820.

7835 Hearing Aids II

G 3

The selection and fitting of amplification devices and the verification of patient outcomes.

Prereq: 6735. Not open to students with credit for 835.

7843 Advanced Practicum in Audiology

G 3

Students are placed in local audiology clinics, medical practices, and medical centers to put into practice skills learned in the classroom.

Prereq: Satisfactory completion of second year of AuD program. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

7844 Advanced Practicum in Communication Disorders

G 4

Advanced practicum with children and adults who have speech, language, or hearing problems.

Prereq: Grad standing in SphHrng. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

7891 Clinical Seminar in Hearing Disorders: Resumes & Interviewing

G 1

Readings and discussion of topics pertinent to the assessment and treatment of hearing disorders with particular emphasis on preparing for professional practice.

Prereq: Grad standing; or permission of instructor. This course is graded S/U. Not open to students with credit for 743.

7999 Research in Speech and Hearing Science: Thesis

G 1 - 12

Research for thesis purposes only.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.

8193 Directed Doctoral Studies

G 1 - 6

Directed, individualized areas of study for doctoral students in either the laboratory or clinical research tracks; conference, library, clinic, and/or laboratory involvement.

Prereq: Doctoral standing in SphHrng, or permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

8900 Doctoral Proseminar in Speech and Hearing Science

G 1

Advanced studies in speech and hearing science to acquaint doctoral students with departmental research, to pose possible dissertation topics, and to improve research/design skills.

Prereq: Doctoral standing and permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is graded S/U.

8931 Cochlear Implants

G 2

Cochlear implant components and functions. Patient candidacy, implant programming, and rehabilitation procedures.

Prereq: Grad standing; or permission of instructor. Not open to students with credit for 930.01

8933 Tinnitus

G 2

Potential physiologic causes of tinnitus and hyperacusis; options for assessment and treatment of the disorders.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 930.03.

8934 Hearing Conservation

G 2

The effect of noise on hearing, physiological and psychological function, productivity, and communication; federal and state regulations reviewed and effects on communities discussed.

Prereq: Grad standing; or permission of instructor. Not open to students with credit for 930.05

8935 Research to Practice

G 2

A seminar course designed to provide audiology and hearing science students with an opportunity to read and discuss recent journal articles relevant to the practice of audiology. In addition, this course is designed to provide an opportunity for audiology and hearing science students to improve their ability to conduct grand round discussions on audiological cases.

Prereq: Grad standing. Repeatable to a maximum of 6 cr hrs.

8940 Advanced Studies in Speech and Hearing Science

G 2

Advanced studies in speech and hearing science to provide doctoral students with special opportunities in advanced areas of speech and hearing science and disorders.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.

Not open to students with 44 qtr cr hrs for 940.

8943 Externship

G 3

Students are placed in clinical sites for extended periods to solidify clinical skills and gain experience in the day to day workings of an audiology practice.

Prereq: Completion of AuD curriculum with exceptions of 8943 and 8997. Repeatable to a maximum of 12 or hrs. This course is graded S/U.

8950 Seminar in Speech and Hearing Science

G 2

Advanced seminars in speech and hearing science and disorders.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 15 completions. Not open to students with 44 qtr cr hrs for 950.

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8997 Capstone Project	G	1 - 5	3301 Statistical Modeling for Discovery I	U	3
Students complete clinical or research-centered project depending on their career interests. Prereq: Completion of first two years' curriculum in AuD program or permission of academic adviser. Repeatable to a maximum of 14 cr hrs or 9 completions. This course is graded S/U.			Statistical models for data analysis and discovery in big-data settings, with primary focus on linear regression models. The challenges of building meaningful models from vast data are explored, and emphasis is placed on model building and the use of numerical and graphical diagnostics for assessing model fit. Interpretation and communication of the results of analyses is emphasized.		
8998 Research in Speech and Hearing Science: Thesis	G	1 - 12	Prereq: C- or better in 3202; or permission of instructor. Prereq or concur: Math 2568; or permission of instructor.		
Research for thesis purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is graded S/U.			3302 Statistical Modeling for Discovery II	U	3
8999 Research in Speech and Hearing Science: Dissertation	G	1 - 12	Statistical models for data analysis and discovery in big-data settings. The regression methods developed in Stat 3301 are extended to data settings with binary and multi-category outcomes. An introduction to some of the most commonly used statistical methods for exploring and analyzing multivariate data is provided. Interpretation and communication of the results of analyses is emphasized.		
Research for dissertation purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 60 cr hrs or 20 completions. This course is graded S/U.			Prereq: C- or better in 3301, and Math 2568; or permission of instructor.		
Statistics					
1350 Elementary Statistics	U	3	3303 Bayesian Analysis and Statistical Decision Making	U	3
Introduction to probability and statistics, experiments, and sampling, data analysis and interpretation. Prereq: Math 1050 (050), or Math Placement Level S, or permission of instructor. Not open to students with credit for GEC Data Analysis (AEDecon 205, AEE 387, AnimSci 260, Astron 350, Chem 221, DentHyg 383, EarthSci 245, Econ 443, ENR 222, HCS 260, IntStds 443, Linguist 286, Philos 153, Physics 416, PolitSc 485 (585), SocWork 570, Sociol 549, SphHrg 286, Stat 135, 145, 245, 427, or 520, or semester equivs). GE data only course.			Introduction to concepts and methods for making decisions in the presence of uncertainty. Topics include: formulation of decision problems and quantification of their components; learning about unknown features of a decision problem based on data via Bayesian analysis; characterizing and finding optimal decisions. Techniques and computational methods for practical implementation are presented.		
1430.01 Statistics for the Business Sciences	U	4	Prereq: C- or above in 3301, or permission of instructor.		
Fundamentals of probability and statistics: Data collection and summaries, random variables, simple linear regression, two-way tables, conditional probability, sampling distributions, confidence intervals, hypothesis tests, analysis of variance. In-person recitation. Prereq: Math 1131, 1151, 1156, 1161.xx, or 1181H, or permission of instructor. Not open to students with credit for 1430, 1430.02, or BusMgt 2320. GE data only course.			3450 Basic Statistics for Engineers	U	2
1430.02 Statistics for the Business Sciences	U	4	Introduction to probability; Normal distribution; Confidence intervals for means; Hypothesis tests for means; Multi-factor experiments; Experiments with blocking. Prereq: Math 1152, 1161.xx, 1172, or 1181, or equiv, or permission of instructor. Not open to students with credit for 3460 or 3470. GE data only course.		
Fundamentals of probability and statistics: Data collection and summaries, random variables, simple linear regression, two-way tables, conditional probability, sampling distributions, confidence intervals, hypothesis tests, analysis of variance. On-line recitation. Prereq: Math 1131, 1151, 1156, 1161.xx, or 1181H, or permission of instructor. Not open to students with credit for 1430, 1430.01, or BusMgt 2320. GE data only course.			3460 Principles of Statistics for Engineers	U	3
1430H Statistics for the Business Sciences	U	4	Introduction to probability, random variables, distributions, expected values; confidence intervals; paired and unpaired t-tests; linear regression; analysis of variance; blocked experiments; fractional factorial experiments; quality control charts. Prereq: Math 1152, 1161.xx, 1172, 1181H, 153, or 254, or equiv, or permission of instructor. Not open to students with credit for 3450, 3470, 427, or 428. GE data only course.		
Calculus-based fundamentals of probability and statistics: Data collection and summaries, random variables, simple linear regression, two-way tables, conditional probability, sampling distributions, confidence intervals, hypothesis tests, ANOVA. Prereq: Honors standing, and Math 1131, 1151, 1156, 1161.xx, or 1181H; or permission of instructor. Not open to students with credit for 1430 or BusMgt 2320. GE data only course.			3470 Introduction to Probability and Statistics for Engineers	U	3
1450 Introduction to the Practice of Statistics	U	3	Introduction to probability, Bayes theorem; discrete and continuous random variables, expected value, probability distributions; point and interval estimation; hypotheses tests for means and proportions; least squares regression. Prereq: Math 1152, 1161.xx, 1172, 1181H, 153 or 254, or equiv, or permission of instructor. Not open to students with credit for 3450, 3460, 427, or 428. GE data only course.		
Algebra-based introduction to data analysis, experimental design, sampling, probability, inference, and linear regression. Emphasis on applications, statistical reasoning, and data analysis using statistical software. Prereq: Math 1116 (116) or 1130 (130) or above, or Math Placement Level L or M, or permission of instructor. Not open to students with credit for 2450 (245) or 145. GE data only course.			4193 Individual Studies	U	1 - 3
2450 Introduction to Statistical Analysis I	U	3	Individual conferences, assigned readings, and reports on minor investigations. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.		
Calculus-based introduction to statistical data analysis. Includes sampling, experimental design, probability, binomial and normal distributions, sampling distributions, inference, regression, ANOVA, two-way tables. Prereq: Math 1131, 1151 (152.xx), 1156, 1161.xx, or 1181H, or equiv, or permission of instructor. Not open to students with credit for 245. GE data only course.			4194 Group Studies	U	1 - 5
2480 Statistics for the Life Sciences	U	3	Designed to give groups of students an opportunity to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions. This course is graded S/U.		
Calculus-based introduction to the statistical analysis of biological data, including probability, common discrete and continuous distributions, experimental design, hypothesis testing, linear regression and correlation. Prereq: Math 1131, 1151 (152), 1156, 1161.XX, or 1181H, or equiv, or permission of instructor. Not open to students with credit for 2450 (245) or 218. GE data only course.			4201 Introduction to Mathematical Statistics I	U	4
3201 Introduction to Probability for Data Analytics	U	3	Basic concepts in mathematical statistics, including probability, discrete and continuous distributions and densities, mathematical expectation, functions of random variables, transformation techniques, sampling distributions, order statistics. Prereq: C- or better in Math 2153 (254), 2162.xx (263), 2182H (263.01H), or 4182H (264H), or permission of instructor. Not open to students with credit for 6201 (520), 6301 (610), 6801 (620), 420, 4202 (421) or Math 4530 (530).		
An introduction to probability and its role in statistical methods for data analytics. Equal emphasis is placed on analytical and simulation-based methods for quantifying uncertainty. Approaches to assessing the accuracy of simulation methods are discussed. Applications of probability and sampling to big-data settings are discussed. Prereq: Math 1152, 1161.xx, 1172, 1181, or equiv; or permission of instructor.			4202 Introduction to Mathematical Statistics II	U	4
3202 Introduction to Statistical Inference for Data Analytics	U	4	Decision theory, point and interval estimation, Neyman-Pearson lemma, likelihood ratio tests, tests for means, variances, and proportions, nonparametric tests, regression, and ANOVA. Prereq: C- or better in 4201 (420), Math 4530 (530), or 5530H (531H), or permission of instructor. Not open to students with credit for 6201, 6302 (623), 6802 (621 and 622), or 421. GE data only course.		
Foundational inferential methods for learning about populations from samples, including point and interval estimation, and the formulation and testing of hypotheses. Statistical theory is introduced to justify the approaches. The course emphasizes challenges that arise when applying classical ideas to big data, partially through the use of computational and simulation techniques. Prereq: C- or better in 3201, or permission of instructor.			4620 Introduction to Statistical Learning	U	2
The course provides an introduction to the principles of statistical learning and standard learning techniques for regression, classification, clustering, dimensionality reduction, and feature extraction. Prereq: C- or better in 3302, or permission of instructor.					
4998 Undergraduate Research in Statistics	U	1 - 5			
Designed to give undergraduates experience in carrying out statistics research. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 6 completions. This course is graded S/U.					

5301 Intermediate Data Analysis I**U G 4**

The first course in a two-semester non-calculus sequence in data analysis covering descriptive statistics, design of experiments, probability, statistical inference, one-sample t, goodness of fit, two sample problem, and one-way ANOVA.

Prereq: Math 1075 (104) or equiv., or Math Placement Level of R, or permission of instructor. Not open to students with credit for 5301 (528 and 529), or 5302 (529 and 530). GE data only course.

5302 Intermediate Data Analysis II**U G 3**

The second course in a two-semester sequence in data analysis covering simple linear regression (inference, model diagnostics), multiple regression models, variable selection, model selection, two-way ANOVA, mixed effects model.

Prereq: 5299, 5301, or 529, or permission of instructor. Not open to students with credit for 530. GE data only course.

5510 Statistical Foundations of Survey Research**U G 3**

Understand and practice methods of survey research and data analysis including questionnaire design and pilot testing, non-sampling and sampling errors, sampling design, descriptive statistics, estimation, and hypothesis testing; and ethics.

Prereq: 1350 (135), 1450 (145), or 5301 (528), and Math 1075 (104), or equiv; or permission of instructor. Not open to students with credit for 6510 (651) or 551.

5550 Introductory Time Series Analysis**U G 3**

Introduces the statistical methodology and models to analyze time series data in practice.

Prereq: 3301; or 4202 and 5302; or permission of instructor. Not open to students with credit for 6550 (635) or 7550.

5740 Introduction to SAS Software**U G 2**

The basic statistical procedures covered will be illustrated using SAS. The intent of the course is to cover some of the SAS statistical methods that graduate students from outside the Statistics Department require for their own research.

Prereq: 5302 (530), or permission of instructor. Not open to students with credit for 574.

5760 Statistical Consulting Support from the SCS**U G 3**

Graduate or undergraduate students enrolled in this course will work with a graduate student consultant employed by the Statistical Consulting Service for the purpose of making progress on their thesis or dissertation.

Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

6040 Mentored Teaching Experience in Statistics**G 2**

The application of best pedagogical practices in selected statistics teaching experiences. A supervised teaching component is included.

Prereq: Grad standing in Statistics or Biostatistics, and permission of instructor. Not open to students with credit for 604. This course is graded S/U.

6193 Individual Studies in Foundational Graduate Topics in Statistics**G 1 - 4**

Individual conferences, assigned readings, and reports on minor investigations in foundational graduate topics in Statistics.

Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

6194 Group Studies in Foundational Graduate Topics in Statistics**G 1 - 5**

Designed to give groups of students an opportunity to pursue special studies in foundational graduate topics in Statistics not otherwise offered.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions. This course is graded S/U.

6201 Mathematical Statistics**G 4**

Probability, random variables, expectation, moment generating functions, discrete and continuous distributions, limit theorems, maximum likelihood and Bayesian estimation, confidence intervals, hypothesis tests, Neyman-Pearson lemma, t and F tests.

Prereq: Math 2153 (254) or equiv, or permission of instructor. Not open to students with credit for 6301 (610) or 6801 (620).

6301 Probability for Statistical Inference**G 3**

Introduction to probability, random variables, and distribution theory; intended primarily for students in MAS degree program.

Prereq: Math 4547 (548), or permission of instructor. Not open to students with credit for 6801 (620 or 621), Math 4530 (530), or 5530H (531).

6302 Theory of Statistical Analysis**G 3**

Estimation, hypothesis tests, best tests, likelihood ratio tests, confidence sets, sufficiency, efficient estimators; intended primarily for students in the MAS degree program.

Prereq: 6301 (610) or 6801 (620), or permission of instructor. Not open to students with credit for 6802 (621, 622, or 623).

6410 Design and Analysis of Experiments**G 4**

Principles of designing experiments; analysis of variance techniques for hypothesis testing, simultaneous confidence intervals; block designs, factorial experiments, random effects and mixed models, split plot designs, response surface design.

Prereq: 6201 (521), 6302 (623), or 6802 (622), and 6450 (645) or 6950; or permission of instructor. Not open to students with credit for 6910 (641).

6450 Applied Regression Analysis**G 4**

Simple and multiple linear regression, diagnostics, model selection, models with categorical variables.

Prereq: 6201 (521), or equiv, or permission of instructor. Not open to students with credit for 6950 (645).

6510 Survey Sampling Methods**G 3**

Sampling from finite populations, simple random, stratified, systematic and cluster sampling design, ratio and regression estimates, non-sampling errors, models.

Prereq: 5301 (529) or PubHBio 6212 (703), or equiv. Not open to students with credit for 651 or PubHBio 7225 (651). Cross-listed in PubHBio 7225.

6520 Applied Statistical Analysis with Missing Data**G 3**

Models and methods for the dataset with missing values, including imputation, likelihood-based, and Bayesian models.

Prereq: 6201, 6302 (623), or 6802 (622), and 6450 (645), 6950, PubHBio 6203, or 703; or permission of instructor. Not open to students with credit for 6520 (652) or PubHBio 7240 (652). Cross-listed in PubHBio 7240.

6530 Introduction to Spatial Statistics**G 2**

Provides an introduction to spatial statistical methods based on the viewpoint that spatial data are a realization from a random process.

Prereq: 6450 (645), 6950, or Geog 883.02, or permission of instructor. Not open to students with credit for 8530 (829) or 631.

6540 Applied Stochastic Processes**G 3**

An introduction to some of the most commonly encountered stochastic processes. Goals include understanding basic theory as well as applications. Students should be familiar with basic probability, including conditional probability and expectation.

Prereq: 6301 (610) or equiv, or permission of instructor. Not open to students with credit for 632.

6550 The Statistical Analysis of Time Series**G 2**

To develop knowledge of time series processes, modeling (identification, estimation, and diagnostics), and forecasting methods. Experience is gained in the statistical theory so as to be able to analyze time series data in practice.

Prereq: 6201, 6302 (623), or 6802 (622), and 6450 (645) or 6950; or permission of instructor. Not open to students with credit for 635.

6560 Applied Multivariate Analysis**G 3**

An introduction to classical multivariate statistical methods based on the multivariate normal distribution. Sufficient matrix algebra will be covered to enable students to understand multivariate methods using matrix notation.

Prereq: 6450 (645) or 6950, or equiv, or Math 2568 (568), or equiv, or permission of instructor. Not open to students with credit for 656.

6570 Applied Bayesian Analysis**G 2**

Introduces various aspects of Bayesian modeling (including conditionally specified models and models for non-normal data) and simulation-based model-fitting strategies.

Prereq: 6301 (610) or 6801 (621 and 622), or permission of instructor. Prereq or concur: 6450 (645) or 6950, and 6302 (623) [with 6301 prerequisite] or 6802 [with 6801 prerequisite]; or permission of instructor. Not open to students with credit for 625.

6605 Applied Survival Analysis**G 3**

Introduction to time-to-event data analysis. Topics include summary statistics, non-parametric methods, semiparametric and parametric models, and competing risks analysis. Focus is on analysis of health data using statistical software.

Prereq: 6450, 6950, or PubHBio 6211. Not open to students with credit for 6605 or PubHBio 7235. Cross-listed in PubHBio 7235.

6610 Applied Nonparametric Statistics**G 3**

Noncalculus treatment of nonparametric tests, confidence intervals, estimation; topics include one- and two-sample problems, one- and two-way analysis of variance, multiple comparisons, correlation.

Prereq: 5301 (529), 6201, or 6302 (623), or equiv, or permission of instructor. Not open to students with credit for 661.

6615 Design and Analysis of Clinical Trials**G 2**

Design, monitoring, and analysis of clinical trials; includes protocol development, randomization schemes, sample size methods, and ethical issues.

Prereq: 5301 (528 and 529), or equiv, or permission of instructor. Not open to students with credit for Biostat 615 or PubHBio 7215. Cross-listed in PubHBio 7215.

6620 Environmental Statistics**G 2**

Survey of statistical methods for environmental data, with a focus on applications. Topics include sampling, regression, censoring, risk analysis, bioassay, time series, spatial statistics, and environmental extremes.

Prereq: 6302 (529) or 6450 (645) or 6910 or Geog 683.xx or 833.01; prereq or concur: Stat 6910; or permission of instructor. Not open to students with credit for 662.

6625 Statistical Analysis of Genetic Data**G 3**

Introduction to Mendelian principles, genetic epidemiology, and molecular genetics; family studies; model-based and model-free linkage analysis for mapping disease genes; genome wide association studies; association analysis using haplotypes.

Prereq: 6301 (610) and 6302 (623), or permission of instructor.

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6640 Principles of Statistical Quality Control	G	3	7302 Advanced Statistical Theory II	G	3
Statistical quality control. Topics include basic concepts, common control charts for quantitative and qualitative data, graphical techniques, process capability studies, and selected additional material as time permits.					
Prereq: 6201 (521), 6302 (623), or 6802 (622), or equiv, or permission of instructor. Not open to students with credit for 664.			Hypothesis testing: likelihood ratio tests, resampling and permutation based tests, sequential tests, multiple testing, asymptotic distributions of test statistics. Intended primarily for PhD students in Statistics or Biostatistics.		
Prereq: 7301, or permission of instructor. Not open to students with credit for 822.					
6650 Discrete Data Analysis	G	2	7303 Bayesian Analysis and Decision Theory	G	3
Two-by-two tables; cross-sectional, prospective, and retrospective studies; measures and tests of association; log linear models; association graphs; analysis of stratified tables.					
Prereq: 5302 (530), 6450 (645), 6950, PubHBio 6203, or 703, or permission of instructor. Not open to students with credit for 665.			Decision theory, loss functions, subjective and objective prior distributions, posterior distribution, estimation, testing, prediction, sensitivity analysis, hierarchical modeling. Intended primarily for PhD students in Statistics or Biostatistics.		
Prereq: 7301 or 622, or permission of instructor. Not open to students with credit for 820.					
6730 Introduction to Computational Statistics	G	2	7410 Theory of the Linear Model	G	3
Introduction to computational statistics. Students will learn how to manipulate data, perform statistical analyses, perform simple Monte Carlo experiments, use resampling methods and discuss the results obtained from their analyses.					
Prereq: 6301 (610), 6302 (623), and 6410 (641) or 6910, and 6450 (645) or 6950; or permission of instructor. Not open to students with credit for 673.			Theory of the general linear model, estimability, power and sample size. Random effects and nested models. Analysis of covariance. Models with block variables. Generalized linear models.		
Prereq: 6802 (622), 6860, and 6950 (645) or 6910 (641); or permission of instructor. Not open to students with credit for 742.					
6740 Data Management and Graphics for Statistical Analyses	G	3	7430 Generalized Linear Models	G	3
Data manipulation for statistical analyses, missing data calculations, merging and transporting data sets, formatting data analysis results, using relational databases and SQL, character data, graphical presentation of data, and macro programming.					
Prereq: Not open to students with credit for 674 or 675.			Introduces the statistical theory and methods to extend regression and analysis of variance to non-normal data. Students will learn to use fixed and random effect generalized linear models to model univariate and multivariate data.		
Prereq: 6801 (620 and 621), 6802 (621 and 622), 6910 (641), 6950 (645), and 7410 (742); or permission of instructor. Not open to students with credit for 743.					
6750 Statistical Consulting and Collaboration	G	2	7470 Advanced Longitudinal Data Analysis	G	3
Role of the statistician as both consultant and collaborator; enhancement of analytical and communication skills; structuring working engagements; introduction to consulting-specific technical skills; experience working on consulting projects.					
Prereq: 6450 (645) or 6950, or permission of instructor. Not open to students with credit for 600 or 601. This course is graded S/U.			Classical and modern statistical approaches for continuous and discrete longitudinal data. Random effects and growth curve models, measurement error, generalized estimating equations, estimation with missing data, multivariate longitudinal data.		
Prereq: 6802 (622) and 6950 (645), or permission of instructor. Not open to students with credit for 726 or PubHBio 8230. Cross-listed in PubHBio 8230.					
6801 Statistical Theory I	G	4	7540 Theory of Stochastic Processes	G	3
Introduction to probability, random variables, distribution theory and principles of inference. Intended primarily for students in the PhD program in Statistics or Biostatistics.					
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Not open to students with credit for 6301 (610) or 620.			Markov chains, ergodicity, Poisson process, martingales, Brownian motion, Gaussian processes, diffusion processes. Intended primarily for students in the PhD program in Statistics or Biostatistics.		
Prereq: 7201, or permission of instructor. Not open to students with credit for 832.					
6802 Statistical Theory II	G	4	7550 Time Series Theory and Methods	G	3
Introduction to statistical inference: Estimation, hypothesis testing, confidence intervals, and decision theory. Intended primarily for students in the PhD program in Statistics or Biostatistics.					
Prereq: 6801, or permission of instructor. Not open to students with credit for 622.			A systematic advanced treatment of areas of current interest in the statistical theory and methods for the analysis of time series processes. Topics will be announced each semester.		
Prereq: 6560 (656) or 6860, 6801 (620 and 621), 6802 (621 and 622), and 6950 (645); or permission of instructor.					
6860 Foundations of the Linear Model	G	2	7560 Multivariate Analysis	G	3
Linear models; Least squares estimates; Multivariate normal distribution; Maximum likelihood estimators; Covariance matrices, information matrices; Quadratic forms; Principal components; Orthogonal polynomial regression; Non-central distributions.					
Prereq: Math 2568 (568) or equiv, or permission of instructor. Concur: 6802. Not open to students with credit for 742.			Matrix normal distribution; Matrix quadratic forms; Matrix derivatives; The Fisher scoring algorithm. Multivariate analysis of variance; Random coefficient growth models; Principal components; Factor analysis; Discriminant analysis; Mixture models.		
Prereq: 6802 (622), or permission of instructor. Not open to students with credit for 755 or 756.					
6910 Applied Statistics I	G	4	7605 Advanced Regression Modeling of Time-to-Event Data	G	3
One and two-sample problems, randomization-based inference, contingency tables, analysis of variance, the mixed model, experimental designs. Intended primarily for students in the PhD program in Statistics or Biostatistics.					
Prereq or concur: 6801, or permission of instructor. Not open to students with credit for 6410 (641).			Advanced topics in survival analysis. Proportional hazards models, parametric regression models, length-bias and prevalent sampling, multivariate survival analysis, counting processes, recurrent events.		
Prereq: 6802 (622) and 6950. Not open to students with credit for PubHBio 8235 or 706. Cross-listed in PubHBio 8235.					
6950 Applied Statistics II	G	4	7610 Theory of Nonparametric Statistics	G	3
Simple and multiple linear regression, diagnostics, model selection, the mixed model, and generalized linear models. Intended primarily for students in the PhD program in Statistics or Biostatistics.					
Prereq: 6801 (620) and 6910 (641), or permission of instructor. Not open to students with credit for 6450 (645).			Theory of distribution-free statistics based on counting and ranking; U-statistics; univariate and multivariate rank regression; additional topics on nonparametric statistics.		
Prereq: 6802 (622), or permission of instructor. Not open to students with credit for 761.					
6998 Research in Foundational Graduate Topics in Statistics	G	1 - 5	7620 Elements of Statistical Learning	G	3
Research topics in foundational graduate topics in Statistics.					
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 6 completions. This course is graded S/U.			Statistical and Machine Learning - Applied modern regression, pattern recognition and clustering techniques for discovery/understanding of underlying statistical structures within large, complex and noisy data sets.		
Prereq: 6301 (610) and 6302 (623), or 6801 (620) and 6802 (622), or ECE 6001, or 7001, or equiv; or permission of instructor. Not open to students with credit for 760.					
7201 Theory of Probability	G	3	7630 Nonparametric Function Estimation	G	3
Measure and integration, random variables, independence, integration and expectation, convergence, characteristic functions, central limit theorems. Intended primarily for students in the PhD program in Statistics or Biostatistics.					
Prereq: 6802 (622), or permission of instructor. Not open to students with credit for 722 or 723.			Function estimation with emphasis on smoothing splines, flexible model building with multivariate data, reproducing kernel Hilbert space methods, additional topics in smoothing.		
Prereq: 6802 (622), or permission of instructor. Not open to students with credit for 763.					
7301 Advanced Statistical Theory I	G	3	7730 Advanced Computational Statistics	G	3
Exponential families, sufficiency, Rao-Blackwell theorem, information, efficiency, maximum likelihood estimation, M-estimation, asymptotics, density estimation. Intended primarily for PhD students in Statistics or Biostatistics.					
Prereq: 6802 (622), or permission of instructor. Not open to students with credit for 821.			Covers modern methods of statistical computing, with emphasis on how and why they work. As a prerequisite, students should be able to program basic functions. Intended primarily for students in the PhD program in Statistics or Biostatistics.		
Prereq: 6802 (622) and 6950 (645); or permission of instructor. Not open to students with credit for 773.					

7755 Biostatistical Collaboration	G	2
Basic biomedical research methodologies; collaborate with biomedical researchers to design experiments and plan analyses; protocol preparation; professional skills development; statistical report preparation.		
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Not open to students with credit for 709. This course is graded S/U. Cross-listed in PubHBio 7245.		
7789 Survey Research Practicum	G	3
Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey.		
Prereq: Admission to Grad interdisciplinary specialization in survey research, or permission of instructor. Not open to students with credit for 7789 or 789 in AEDecon, AgrEduc, BusML, Comm, Econ, EduPL, Geog, PolitSc, Psych, PubHlth, PubAfrs, Sociol, or Stat. Cross-listed in Comm, Econ, and PolitSc.		
7998 Intermediate Graduate Research in Statistics	G	1 - 4
Research topics in intermediate graduate topics in Statistics.		
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.		
7999 Masters Thesis Research in Statistics	G	1 - 18
Masters Thesis Research in Statistics.		
Prereq: Grad standing in Stat. Repeatable. This course is graded S/U.		
8010 Seminar on Research Topics in Statistics	G	1
Lectures on current research by each graduate faculty member in statistics.		
Prereq: Grad standing in Statistics. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.		
8193 Individual Studies in Advanced Graduate Topics in Statistics	G	1 - 5
Individual conferences, assigned readings, and reports on minor investigations in advanced graduate topics in Statistics.		
Prereq: Permission of instructor. Repeatable to a maximum of 25 cr hrs or 5 completions. This course is graded S/U.		
8194 Group Studies in Advanced Graduate Topics in Statistics	G	1 - 5
Designed to give groups of students an opportunity to pursue special studies in advanced graduate topics in Statistics not otherwise offered.		
Prereq: Permission of instructor. Repeatable to a maximum of 25 cr hrs or 5 completions. This course is graded S/U.		
8310 Large Sample Theory	G	3
Stochastic Convergence, Delta Method, Moment Estimators, M- and Z- estimators, Efficiency of Estimators, U- Statistics, Rank, Sign and Permutation Statistics, Large sample methods for functional data.		
Prereq: 7201 (722 and 723) and 7302 (821), or permission of instructor. Not open to students with credit for 888.		
8410 Capstone Applications	G	3
Intensive, project-based investigation of applied and/or interdisciplinary statistical problems, suitable for advanced PhD students in Statistics and Biostatistics.		
Prereq: 7302 (821), 7410 (742), and 7540 (832), and Grad standing in Statistics or Biostatistics; or permission of instructor.		
8450 Stochastic Epidemic Models	G	3
Introduction to methods of analyzing large population epidemic data from the viewpoint of stochastic processes theory. Topics will cover the SIR (susceptible-infective-removed) epidemic models both under the homogenous and restricted contact structures. Lectures will introduce the necessary background in probability and statistics along with real-life applications (e.g. HIV, H1N1 and SARS).		
Prereq: 6801, and 6540 or 7540; or permission of instructor. Not open to students with credit for PubHBio 8450. Cross-listed in PubHBio.		
8460 Special Topics in Design of Experiments	G	3
Selection of Advanced Topics from: Theory of optimal design; Computational Algorithms; Design and analysis of computer experiments; Design for nonlinear models; Discrete choice experiments.		
Prereq: 7410 (742), or permission of instructor. Not open to students with credit for 847.		
8530 Spatial and Spatio-Temporal Statistics	G	3
Geostatistics, kriging, hierarchical statistical models, Markov random fields, spatial point processes, spatio-temporal statistical models. Intended primarily for students in the PhD program in Statistics or Biostatistics.		
Prereq: 6802 (622) and 6950 (645), or permission of instructor. Not open to students with credit for 829.		
8540 Topics in Advanced Stochastic Processes	G	3
Dedicated to advanced topics in stochastic processes, such as stochastic integration and stochastic differential equations (SDEs), numerical methods and inference for SDEs, etc. Applications in several areas will be discussed.		
Prereq: 7201 (722 and 723), or permission of instructor.		
8570 Advanced Bayesian Analysis: Modeling	G	3
A systematic advanced treatment of areas of current interest in Bayesian analysis. Topics will be announced each semester.		
Prereq: 7303 (820), or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
8605 Advanced Survival Analysis	G	3
Counting process approach to modeling life history data, including Nelson-Aalen, product limit, and K-sample estimators. Topics from parametric models, semiparametric proportional and additive hazards regressions, and multivariate survival models.		
Prereq: 7201 (722 and 723) and 7540 (832), or permission of instructor. Not open to students with credit for Biostat 805 and 806.		
8625 Statistical Methods for Analyzing Genetic Data	G	3
Basic principles of population genetics; gene frequency estimation; likelihood computation on pedigrees using peeling algorithm, Lander-Green algorithm, Monte Carlo methods; linkage analysis, population and family based association studies.		
Prereq: 6802 (622), or permission of instructor. Not open to students with credit for 833.		
8750.01 Research Group in Statistical Learning and Data Mining	G	1
Research group in Statistical Learning and Data Mining. Topics vary by the offering.		
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.		
8750.02 Research Group in Design of Physical and Computer Experiments	G	1
Research group in Design of Physical and Computer Experiments. Topics vary by the offering.		
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.		
8750.03 Research Group in Statistical Genetics and Bioinformatics	G	1
Research group in Genetics. Topics vary by the offering.		
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.		
8750.04 Research Group in Quantitative Methods in Consumer Behavior	G	1
Research group in Quantitative Methods in Consumer Behavior. Topics vary by the offering.		
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.		
8750.05 Research Group in Ranked Set Sampling	G	1
Research group in Ranked Set Sampling. Topics vary by the offering.		
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.		
8750.06 Research Group in Spatial Statistics and Environmental Statistics	G	1
Research group in Spatial Statistics and Environmental Statistics. Topics vary by the offering.		
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.		
8750.08 Research Group in Observational Data	G	1
Research group in Observational Data. Topics vary by the offering.		
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.		
8810 Advanced Topics in Statistics I	G	1 - 3
A systematic advanced treatment of areas of current interest in Statistics. Topics will be announced each semester.		
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.		
8820 Advanced Topics in Statistics II	G	1 - 3
A systematic advanced treatment of areas of current interest in Statistics. Topics will be announced each semester.		
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.		
8895 Statistics Seminar	G	1
Topics range over the current research interests of statisticians from around the world; some lectures are of an expository nature.		
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 20 or hrs. This course is graded S/U.		
8999 PhD Dissertation Research in Statistics	G	1 - 18
PhD Dissertation research in Statistics.		
Prereq: Permission of instructor. Repeatable. This course is graded S/U.		
Surgery		
7010 Seminar in Practice Management for Surgeons I	G	1
Provides surgery residents basic information on business principles related to practice of medicine and surgery.		
Prereq: Medical Degree and one year of Surgical Residency. This course is graded S/U.		
7020 Seminar in Practice Management for Surgeons II	G	1
Provides surgery residents basic information on business principles related to practice of medicine and surgery.		
Prereq: Medical Degree and one year of Surgical Residency. This course is graded S/U.		

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7030 Seminar in Practice Management for Surgeons III	G	1	8501 Career Development Course for Surgeons	G M	2			
Provides surgery residents basic information on business principles related to practice of medicine and surgery.								
Prereq: Medical Degree and one year of Surgical Residency. This course is graded S/U.								
7040 Seminar in Practice Management for Surgeons IV	G	1	This course is designed for surgery residents to strengthen their research practices and data collection skills, to gain the skills needed for grant writing, to enhance awareness of the Surgeon-Scientist Career Path, to develop research skills to enhance independence and career success, to facilitate selection and optimization of first faculty position, and to enhance awareness of career resources.					
Provides surgery residents basic information on business principles related to practice of medicine and surgery.								
Prereq: Medical Degree and one year of Surgical Residency. This course is graded S/U.								
7050 Seminar in Practice Management for Surgeons V	G	1	Prereq: Surgical Resident, Surgical Fellow, Surgery Junior Faculty, or permission of instructors. Repeatable to a maximum of 6 cr hrs.					
Provides surgery residents basic information on business principles related to practice of medicine and surgery.								
Prereq: Medical Degree and one year of Surgical Residency. This course is graded S/U.								
7060 Seminar in Practice Management for Surgeons VI	G	1	8814 Responsible Conduct of Research: Human Participants and the Use of Animals in Biomedical Research	G	2			
Provides surgery residents basic information on business principles related to practice of medicine and surgery.								
Prereq: Medical Degree and one year of Surgical Residency. This course is graded S/U.								
7189.02 Clinical Studies: Trauma and Critical Care	G	1 - 12	Responsible conduct of research with human participants and the use of animals in biomedical research is crucial to maintaining the public trust in both the results and the methods of biomedical research.					
Trauma and Critical Care.								
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								
7190.02 Research Studies in Surgery: General Surgery and Minimally Invasive Surgery	G	1 - 12	8815 Training in Clinical Research I	G	2			
General Surgery and Minimally Invasive Surgery Studies.								
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								
7190.05 Research Studies in Surgery: Pediatric Surgery	G	1 - 12	8850 Seminars in Surgery: Grand Rounds	G	2			
Pediatric Surgery.								
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								
7190.09 Research Studies in Surgery: Cardiothoracic Surgery	G	1 - 12	8860 Seminars in Surgery: Morbidity and Mortality	G	2			
Cardiothoracic Surgery.								
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								
7190.10 Research Studies in Surgery: Peripheral Vascular Surgery	G	1 - 12	8900 Applications of Immunology in Surgery	G	2			
Peripheral Vascular Surgery.								
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								
7193.01 Individual Studies: General Surgery	G	1 - 12	8999 Research in Surgery	G	1 - 12			
Conducting basic science or clinical research on a surgically related topic under faculty supervision.								
Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								
7193.02 Individual Studies: Pediatric Surgery	G	1 - 12	Swahili					
Conducting basic science or clinical research on a surgically related topic under faculty supervision.								
Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								
7193.04 Individual Studies: Surgical Infectious Diseases	G	1 - 12	1101 Elementary Swahili I	U	4			
Conducting basic science or clinical research on a surgically related topic under faculty supervision.								
Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								
7193.06 Individual Studies: Surgical Oncology	G	1 - 12	1102 Elementary Swahili II	U	4			
Conducting basic science or clinical research on a surgically related topic under faculty supervision.								
Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								
7193.08 Individual Studies: Transplantation	G	1 - 12	1103 Elementary Swahili III	U	4			
Conducting basic science or clinical research on a surgically related topic under faculty supervision.								
Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								
7193.10 Individual Studies: Wound Healing	G	1 - 12	2201 Intermediate Swahili I	U	3			
Conducting basic science or clinical research on a surgically related topic under faculty supervision.								
Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								
7193.12 Individual Studies: Molecular Medicine	G	1 - 12	2241 Intermediate Swahili II: Translation	U	3			
Conducting basic science or clinical research on a surgically related topic under faculty supervision.								
Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.								

Swedish

1101 Swedish I	U	4
Introduction to language and culture of Sweden with emphasis on the acquisition of basic communication skills in a cultural context. Closed to native speakers of this language.		
Prereq: Not open to students with credit for 101.01, or to students with 2 or more years of study in this language in high school, except by permission of dept. GE for lang course.		
1102 Swedish II	U	4
Continued development of Swedish language skills and knowledge for effective communication. Emphasis on more advanced language structures and on more nuanced cultural issues. Not open to native speakers of this language through regular course enrollment or EM credit.		
Prereq: A grade of C- or above in 1101. Not open to students with 102.01 and 103.01. GE for lang course. FL Admis Cond course.		
1103 Swedish III	U	4
Development of skills necessary for the independent use of Swedish. Discussions, presentations, writing and listening/viewing activities address topics of contemporary Sweden.		
Prereq: Grade of C- or better in 1102. Not open to students with credit for 103.01, 104.01, or to native speakers of this language through regular course enrollment or EM credit. GE for Lang Course. FL Admis Cond Course.		
2101 Texts and Contexts: Contemporary Swedish Language, Culture, and Society	U	3
Development of communication skills and knowledge about recent social, political, and cultural developments in Sweden through texts, media, and film.		
Prereq: Grade of C- or better in Swedish 1103. Not open to students with credit for 201. GE for Lang Course. FL Admis Cond course.		

Technical Physics

1150T Technical Physics	U	5
Principles and applications of forces, motion, energy, matter, heat, thermodynamics, electricity, mechanical waves, and electromagnetic radiation.		
Prereq: GenMath 1145T (145T) or Math 1148 (148) with a grade of C- or better. Not open to students with credit for 101T or 102T. This course is available for EM credit.		
2194T Group Studies	U	1 - 3

Designed to give groups of students an opportunity to pursue special studies not offered in other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

Theatre

2000.02 Technical Production Practicum: Sound	U	1
Provides experience in technical production activities.		
Repeatable to a maximum of 6 cr hrs or 6 completions.		
2000.03 Technical Production Practicum: Video	U	1
Provides experience in technical production activities.		
Repeatable to a maximum of 6 cr hrs or 6 completions.		
2000.04 Technical Production Practicum: Scenic Construction and Painting	U	1
Provides experience in technical production activities.		
Repeatable to a maximum of 6 cr hrs or 6 completions.		
2000.05 Technical Production Practicum: Costuming	U	1
Provides hands-on experience in practical costuming skills, such as fabric preparation, machine and hand sewing, costume maintenance, and costume crafts while working collaboratively and communicating professionally with a variety of artists involved in the theatrical production process.		
Repeatable to a maximum of 6 cr hrs or 6 completions.		
2000.06 Technical Production Practicum: Lighting	U	1
Provides training and experience in lighting production activities. Students learn to hang & focus lights & delve into associated technology. This laboratory meets irregularly; students are required to complete 42 hours of work across the semester and attendance at scheduled weekend lighting load-ins is required.		
Repeatable to a maximum of 6 cr hrs or 6 completions.		
2000.09 Technical Production Practicum: General	U	1
Provides experience in technical production activities.		
Prereq: Not open to students with credit for 205.		
2000.11 Technical Production Practicum: Box Office	U	1
Provides experience in technical production activities.		
Repeatable to a maximum of 6 cr hrs or 6 completions.		
2000.21 Technical Production Practicum: Publicity	U	1
Provides experience in technical production activities.		
Repeatable to a maximum of 6 cr hrs or 6 completions.		

2100 Introduction to Theatre	U	3
A study of the art and profession of theatre, with an emphasis on evaluating and appreciating live performance, theatre's cultural importance, and its relationship to issues of social diversity. Students study performance conventions, texts, & spaces from ancient times to present day. While not an acting class, students get firsthand experience in the collaborative process of theatre creation.		
Prereq: Not open to students with credit for 2101H (101H) or 100. This course is available for EM credit. GE VPA and diversity soc div in the US course. VSP Admis Cond course.		
2100E Introduction to Theatre	U	3
A study of the art and profession of live theatre with emphasis upon its cultural and social influences in our society.		
Prereq: Permission of instructor. Not open to students with credit for 2101H (101H), 100, or 100H. This course is available for EM credit. GE VPA and diversity soc div in the US course. VSP Admis Cond course.		
2100H Introduction to Theatre	U	3
A study of the art and profession of live theatre with emphasis upon its cultural and social influences in our society.		
Prereq: Honors standing or permission of instructor. Not open to students with credit for 2101H (101H), 100, or 100H. GE VPA and diversity soc div in the US course.		
2101H Introduction to Theatre: Making History	U	3
Introduction to theatrical performance through examining play texts and communicating with the playwrights from the archives of the Lawrence and Lee Theatre Research Institute.		
Prereq: Honors standing or permission of instructor. Not open to students with credit for 2100 (101) or 2100H (101H). GE VPA course.		
2110 Script Analysis	U	3
Fundamental principles for intensive study of the theatrical script as the basis for actor training, performance and production.		
Prereq: 2100 or 2101H. Not open to students with credit for 210.		
2211 Introduction to Production Design	U	3
Introduction to scenic, costume, lighting and sound design techniques for production; experience in research and designing projects.		
2341H Moving Image Art	U	3
The issues and concepts fundamental to the development of an understanding of the aesthetics of film and video from the standpoint of the producer and maker.		
Prereq: Honors standing or by permission of instructor. Not open to students with credit for 230H. GE VPA course.		
2351 Fundamentals of Radio and TV Production	U	3
Broadcasting techniques, skills and styles.		
Prereq: Not open to students with credit for 580.		
2367.01 Self Images: America on Stage, 1830 to the Present	U	3
Exploration of the images of Americans presented on popular stages through written analysis of theatrical and critical texts.		
Prereq: English 1110, and Soph standing or above. Not open to students with credit for 2367. GE writing and comm course: level 2 and diversity soc div in the US course.		
2367.01H Self Images: America on Stage, 1830 to the Present	U	3
Exploration of the images of Americans presented on popular stages through written analysis of theatrical and critical texts.		
Prereq: Honors and Soph standing, and English 1110 or equiv. Not open to students with credit for 2367 (367). GE writing and comm course: level 2 and GE diversity soc div in the US course.		
2367.02 African American Theatre History	U	3
Examination of aesthetic and sociological evolution in America of African American theatre, literature, and film.		
Prereq: English 1110 (110) or equiv, and Soph, Jr, or Sr standing. Not open to students with credit for 2367 (367). GE writing and comm course: level 2 and lit and diversity soc div in the US course.		
2367.03 Criticizing Television	U	3
Study of theatre history at an intermediate level with emphasis on writing skills. A critical analysis of a wide variety of television programs through viewing, discussing, reading, and writing.		
Prereq: English 1110 (110) or equiv, and Soph, Jr, or Sr standing. Not open to students with credit for 2367.xx (367.xx) or ArtEduc 2367.03 (367.03). GE writing and comm course: level 2 and diversity soc div in the US course. Cross-listed in ArtEduc.		
2811 The Craft of Acting	U	3
An introductory acting class exploring the basic techniques of imagination, concentration, character development, and script analysis through work on monologues, scenes, and plays.		
Prereq: Not open to students with credit for 280. GE VPA course.		
3000 Production Run Crew Practicum	U	1 - 2
Hands-on involvement in the production of live theatre; participation leading to a more thorough understanding of theatre and in particular theatre design and technology.		
Repeatable to a maximum of 8 cr hrs or 4 completions.		

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3111 Stage Directing	U	3	3825 Special Topics in Voice for the Stage	U	3
An introduction to the basic principles, techniques and challenges of directing for the stage. Prereq: 2110 and 2811. Not open to students with credit for 310.					
3221 Stage Management	U	3	3831 Movement and Voice	U	3
Principles, practices, and techniques of stage management, and a survey of modern management techniques. Prereq: 2211. Not open to students with credit for 602.					
3241 Theatre Sound Techniques	U	3	Basic study and training in movement for actors, voice production, and whole body expressiveness. Prereq: 2811. Not open to students with credit for 2831, or 383 and 386.		
3351 Television Production I	U	3	3832 Viewpoints Training	U	3
Fundamentals of television broadcasting through lectures, labs and practicum involvement with OSU's student television station and media lab. Prereq: Not open to students with credit for 300.					
3352 Television Production II	U	3	Introduction to Viewpoints Training: A method of improvisation that builds ensembles, strengthens physical range, and develops acting, directorial and choreographic skills. Prereq: 2811 and 3831, or permission of instructor. Not open to students with credit for 2832.		
3381 Introduction to Narrative Filmmaking	U	3	3921S Creation of Outreach Theatre	U	3
This course provides a foundation in the conceptual and technical building blocks of cinematic narrative. Students will investigate the nature of event, character, and place, developing their production and post-production skills in composition, camera movement, lighting, editing, and sound design to support and enhance storytelling. Prereq: Admission to Moving-Image Production major, or permission of instructor.					
3411 Introduction to Scenic Design	U	3	4000.01 Practicum: Stage Management	U	1 - 3
Introduction to basic design elements for the stage including research, sketching, color theory, model building, drafting and stagecraft. Prereq: 2211. Not open to students with credit for 220.			Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Not open to students with credit for 405.01. Repeatable to a maximum of 18 cr hrs or 8 completions.		
3511 Introduction to Costume Design	U	3	4000.02 Practicum: Sound	U	1 - 3
Fundamental exploration of methods of design and production as applies to costumes. Prereq: 2211. Not open to students with credit for 222.			Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 8 completions.		
3551 Stage Make-Up	U	3	4000.03 Practicum: Video	U	1 - 3
Practical application of theories and techniques of make-up design. Emphasis on presentational styles. Purchase of make-up kit required. Prereq: 2211. Not open to students with credit for 353.			Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 8 completions.		
3597 Issues of the Contemporary World: Censorship and Performance	U	3	4000.04 Practicum: Stage Design	U	1 - 3
Exploration of censorship in live performance in both Western and non-Western communities and the ways such practice links to governmental public policy or to pressure groups. Prereq: Jr or Sr standing. Not open to students with credit for 597. GE cross-disciplinary seminar course.			Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 8 completions.		
3611 Introduction to Lighting Design	U	3	4000.05 Practicum: Costuming & Makeup	U	1 - 3
Introduction to basic lighting design elements for the stage including research, collaboration, basic electrical practice, color theory, drafting, and lighting stage work. Prereq: 2211. Not open to students with credit for 221.			Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 8 completions.		
3731 Theatre Histories and Literatures	U	3	4000.06 Practicum: Lighting	U	1 - 3
Survey of representative theatre and performance from Western and non-Western traditions from classical Greece to present day. Prereq: 2100 (100) or 2101H (101H). Not open to students with credit for 531.			Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 8 completions.		
3812 Acting Studio I: Stanislavski	U	3	4000.07 Practicum: Dramaturgy	U	1 - 3
An intermediate acting studio exploring the Stanislavski basic acting technique of given circumstances, intentions, obstacles and strategies, in exercises, scenes and discussion. Prereq: 2811 (280). Not open to students with credit for 2812 or 380.			Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 8 completions.		
3813 Acting Studio II: Contemporary Scene	U	3	4000.08 Practicum: Acting	U	1 - 3
An intermediate acting studio focusing on scene study and dramatic analysis, utilizing contemporary plays, and studying current playwrights. Prereq: 2811 (280). Not open to students with credit for 2813 (381).			Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor, by audition. Repeatable to a maximum of 18 cr hrs or 8 completions.		
3814 Acting Studio III: Special Topics	U	3	4000.09 Practicum: General	U	1 - 3
An advanced acting studio focused on various acting topics, techniques, and approaches. Topics may include Shakespeare, improvisation, period styles, and others. Prereq: 2811, and permission of instructor. Not open to students with credit for 382. Repeatable to a maximum of 9 cr hrs.			Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 8 completions.		
3815 Acting for the Camera	U	3	4000.11 Practicum: Theatre Management	U	1 - 3
An advanced acting class focusing on the specific challenges of acting for the camera. Prereq: 2811, and permission of instructor.			Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 8 completions.		
3821 Accents and Dialects	U	3	4000.14 Practicum: Technical Direction	U	1 - 3
The fundamentals of acquiring dialects for the stage. Prereq: 2811. Not open to students with credit for 384.			Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 8 completions.		
4191 Internship in Theatre	U	1 - 12			
A cooperative education or internship assignment conducted under the supervision of a faculty member. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 3 completions. This course is graded S/U.					

4194 Group Studies	U	1 - 3	5231 Topics in Technical Theatre	U G	1½
Group studies. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.					
4821 Singing Actor	U	3	5241 Topics in Sound Technology	U G	3
The fundamentals of acting through song. Prereq: 2811.					
4921S Performance Studies in Outreach Theatre	U	3	An exploration of topics on theatrical sound including audio system form and function, live mix, aesthetics of sound, audio engineering and theatrical sound design.		
Use of improvisational acting techniques to develop the performance of an outreach touring theatre production. Prereq: Permission of instructor, by audition. Repeatable to a maximum of 6 cr hrs.					
4998 Undergraduate Scholarship: Research and Creative Activity in Theatre	U	1 - 12	Prereq: 3241 or 5212. Repeatable to a maximum of 9 cr hrs.		
Undergraduate research or creative activities in varying topics leading towards a creative project without a thesis. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.					
4998H Undergraduate Scholarship: Research and Creative Activity in Theatre	U	1 - 12	5261 Theatre Graphics I	U G	3
Undergraduate research or creative activities in varying topics leading towards a creative project without a thesis. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.					
4999 Undergraduate Thesis Scholarship: Research and Creative Activity in Theatre	U	1 - 12	An examination of drafting techniques and graphics presentation in relation to theatre design and technology, with an emphasis on 2D environments.		
Undergraduate research or creative activities in varying topics that will lead to a thesis. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.					
4999H Undergraduate Honors Thesis Scholarship: Research and Creative Activity in Theatre	U	1 - 12	Prereq: Not open to students with credit for 621.01.		
Undergraduate research or creative activities in varying topics that will lead towards an Honors thesis. Prereq: Honors standing and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.					
5111 Advanced Stage Directing	U G	3	5262 Theatre Graphics II	U G	1½
Principles, techniques and practices of advanced stage directing with an emphasis on text analysis, research and process. Prereq: 3111 (310). Not open to students with credit for 610.					
5177 Alexander Technique	U G	1 - 2	An exploration of advanced techniques in theatre drafting and graphics, with an emphasis on 3D environments.		
The relationship of kinesthetic perception and the postural reflexes to physical coordination in performance. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. Cross-listed in Dance and Music.					
5189 Field Work in Theatre, Cinema, or Video	U G	1 - 12	Prereq: Not open to students with credit for 621.02.		
Planned production or management experience in an off-campus professional, educational, community theatre, film or video facility, or other agency under supervision. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 3 completions. This course is graded S/U.					
5193 Individual Studies	U G	1 - 3	5263.01 Theatre Graphics III: Scenic	U G	1½
Conference, library, and laboratory work. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.					
5194 Group Studies	U G	1 - 3	An exploration of scenic graphics and presentation software generally recognized as industry standards in the theatre.		
Group Studies. Repeatable to a maximum of 12 cr hrs or 4 completions.					
5211 Production Design I	U G	3	5263.02 Theatre Graphics III: Lighting	U G	1½
Investigation of scenic, costume, lighting, sound, and media design techniques for production. Research, design, and preparation of design and technical materials for several playscripts. Prereq: 2211, or permission of instructor.					
5212 Production Design II	U G	3	An exploration of lighting graphics and presentation software generally recognized as industry standards in the theatre.		
Further investigation of theatre design techniques for production. Comprehensive research for a play; collaboration with a guest director. Advanced preparation of design and technical materials. Prereq: 5211.					
5220 Professional Aspects	U G	3	5263.03 Theatre Graphics III: Costume	U G	1½
Study of the professional theatre as a business; contracts, unions, the theatre marketplace; preparation of resumes, portfolios, audition pieces, interview. Prereq: Not open to students with credit for 600.					
5221 Theatre Management	U G	3	An exploration of costume graphics and presentation software generally recognized as industry standards in the theatre.		
Principles, practices, and techniques of theatre management and a survey of modern management techniques. Prereq: Not open to students with credit for 601.					
5310 Fundamentals of Media Design	U G	3	5311 Film/Video Production I	U G	3
A foundational introduction to the skills, tools, best practices, collaborative processes, and theories for media and projection design in a live performance production environment. Prereq: 2211, or permission of instructor.					
5321 Film/Video Production I	U G	3	Basics of film/video production through lectures, analysis, and projects. Camera, sound, lighting, and editing techniques are practiced in collaborative and individual settings.		
Prereq: Permission of instructor. Not open to students with credit for 634.					
5322 The Art of Editing	U G	3	Prereq: 5321 and permission of instructor. Not open to students with credit for 633.		
Exploration of post-production techniques from editorial concepts to outputting video. Students will expand their knowledge of the editorial process and their analytical skills.					
5323 Film/Video Production II	U G	3	5323 Intermediate Film/Video Production	U G	3
Intermediate film/video analysis and production through research and project assignments with camera, sound, lighting, and editing techniques. Prereq: 5321, or permission of instructor. Repeatable to a maximum of 9 cr hrs.					
5331 Screenwriting	U G	3	Prereq: 5323, or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
Exploration of creative script-writing for video/cinema; development of short or feature length scripts. Prereq: Permission of instructor. Not open to students with credit for 636.					
5341 Studies in the Documentary	U G	3	5341 Studies in the Documentary	U G	3
Exploration of the conceptual, aesthetic, critical, social, ethical, and practical issues in the practice of documentary and reality production of cinema and video works. Prereq: Permission of instructor. Not open to students with credit for 777.					
5411 Scenic Design I	U G	3	Exploration of the conceptual, aesthetic, critical, social, ethical, and practical issues in the practice of documentary and reality production of cinema and video works.		
Presentation of scenic design in three dimensional model form; emphasis on designing for non-proscenium production. Prereq: Not open to students with credit for 643.					
5412 Scenic Design II	U G	3	5412 Scenic Design II	U G	3
Presentation of multiple-setting, scenic design in three dimensional models, renderings and sketches; emphasis on story boarding to show clear progression of scenic changes. Prereq: Not open to students with credit for 644.					
5441 Period Styles for Production	U G	3	Prereq: Not open to students with credit for 649 and 650.		
An exploration of period styles from ancient to contemporary; emphasis on architecture, clothing, furniture, jewelry, textiles, and decorative objects. Prereq: Not open to students with credit for 649 and 650.					
5511 Costume Design Techniques	U G	3	5511 Costume Design Techniques	U G	3
Exploration of methods and techniques of design as applies to costumes. Prereq: Not open to students with credit for 656.					
5531 Intermediate Stage Costume Construction	U G	3	Practical application of theories and techniques of costume/clothing construction. Includes setting collars, sleeves, application of closures. Prereq: Not open to students with credit for 651.		

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5611	Lighting Design	U G	3	5835	Special Topics in Movement for the Stage	U G	3
	A study of light as a design element for theatrical performance; analysis and preparation of designs for realized and theoretical theatre applications.				Intensive study of a problem related to movement of the actor for the purpose of developing specific principles and practices.		
	Prereq: Not open to students with credit for 625.				Prereq: 3831 (2831), or permission of instructor. Repeatable to a maximum of 9 cr hrs.		
5621	Lighting Technology/Production	U G	3	5899	Workshops	U G	1 - 12
	An examination of the craft of theatre technology, with an emphasis on technical projects as associated with the responsibilities of a production electrician.				Intensive study of a problem common to the participants for the purpose of developing principles and practices relating to it.		
	Prereq: Not open to students with credit for 628.				Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 4 completions.		
5720	Dramaturgy: Theory and Practice	U G	3	5911	New Works Lab	U G	3
	Survey of history, theory, and practical exercises in production dramaturgy, the art of interrogating plays in production.				New writers experiment with a variety of contemporary techniques to write, act, direct and improv short plays, oral histories, video and solo works.		
					Repeatable to a maximum of 6 cr hrs or 2 completions.		
5731	London Theatre and Culture	U G	2	5921	Performing and Teaching Shakespeare for the Actor: A Toolkit	U G	3
	This course prepares students for the London Theatre Program study abroad experience at Ohio State.				An exploration of methods for interpreting, performing, and teaching Shakespeare. Emphasis on Stand Up for Shakespeare technique, the work of John Basil, John Barton, and the Lessac voice system. Students will develop exercises and lessons intended for K-12 students.		
	Repeatable to a maximum of 6 ch hrs.				Prereq: 2831 (383), or permission of instructor.		
5741	Czech Theatre and Culture	U G	3	5922S	Shakespeare and Autism	U G	3
	An introduction to the language, history, and culture of the Czech Republic designed to prepare students for an international experience. The course is a combination of instructor led lectures, discussions and presentations including a wide variety of Czech visual materials, and is a prerequisite for students participating in the Prague Theatre Study Tour Program.				An ensemble-based interdisciplinary service-learning course where students are trained in the Hunter Heartbeat Method intervention and then conduct interactive workshops with children on the autism spectrum.		
	Prereq: 2100 (100), and acceptance to the Prague Theatre Study Tour, and permission of instructor. Repeatable to a maximum of 9 cr hrs.				Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.		
5751	Performance and Culture in Cuba	U G	2	5961	Playwriting	U G	3
	This course explores culture in Cuba, past and present, with emphasis on the performing and visual arts. We consider the important historical, economic, and political contexts that inform Cuban arts today.				Students will write 10-minute plays as exploratory exercises, analyze contemporary plays to deepen familiarity with the theatrical form, and, as a final project, write a one-act play which will receive a staged reading. Seminar and Workshop.		
					Prereq: Not open to students with credit for 660.		
5771.01	The History and Practice of Devising Theatre	U G	3	5971	Adaptation	U G	3
	Advanced study on the history of creating new performance works through the collaborative, collective artistic process of devising.				In various guises (translation, revision, revival, recycling, burlesque, travesty, parody, adaptation, theft) the stage has long been a site of mythological and textual reiteration. The course examines the ways in which a select group of texts have found their ways onto the English-speaking stage again and again. The course contextualizes adaptation as a theatrical practice elemental to cultures.		
					Prereq: Permission of instructor.		
5771.02	Theatre for Social Change	U G	3	6194	Group Studies	G	1 - 3
	Advanced study of theatre and performance strategies used for social change and community engagement which includes Theatre for Development, and Augusto Boal's theory and practice.				Group Studies.		
					Repeatable to a maximum of 12 cr hrs or 4 completions.		
5771.03	Out There Alone: The History of Solo Performance	U G	3	6421	Scene Painting	G	3
	Advanced study of the ubiquitous solo performer that considers the classical Greek rhapsodies, to Chautauqua, to contemporary solo artists, many of whom create new works.				Techniques used in scene painting; mixing and matching colors, rendering texture and form, enlarging painter's elevations; types of paints used in scene painting.		
					Prereq: Not open to students with credit for 642.		
5771.04	American Voices	U G	3	6431	Stage Properties	G	1½
	Advanced study of a focused theatre history topic such as African American, Latino/a, Asian American, Native American, women playwrights, and gay and lesbian theatre.				Exploration of scenic/design technology topics including stage properties, advanced scene painting, surface treatments.		
					Prereq: Not open to students with credit for 646.		
5771.05	All Singing, All Dancing: The History of Musical Theatre	U G	3	6651	Digital and Physical Lighting	G	4
	Advanced study on the history and contemporary practice of the art form of musical theatre including an emphasis on the American Rock Musical.				Introduction to basic principles and concepts of lighting as used in theatre and computer graphics. Working in collaborative teams, students develop and execute installation schemes.		
					Prereq: Permission of instructor. Not open to students with credit for 754. Cross-listed in ArtsCol.		
5771.06	International Theatre and Performance	U G	3	6701	Research Methods	G	2 - 4
	Advanced study of a focused international theatre history topic such as African, Spanish and Portuguese, Asian theatre, theatre masks, puppets, Irish diaspora.				Introduction to research methods, tools, and resources in live theatre and recorded performance, and directed research in student's area of focus.		
					Prereq: Not open to students with credit for 801. Repeatable to a maximum of 4 cr hrs.		
5771.07	Crones, Curmudgeons, and Living Treasures - Theatre and Aging	U G	3	6811	Advanced Acting Studio I	G	3
	History, theory and literature of the Senior Theatre Movement from its beginnings to the present from both theatrical and gerontological perspectives.				A graduate acting class focused on exploring basic realistic acting techniques.		
	Prereq: Not open to students with credit for 675.01.				Prereq: Not open to students with credit for 780.		
5771.09	Performance in Media: Film, Video and Digital	U G	3	6812	Advanced Acting Studio II	G	3
	Advanced study on the history and contemporary practice of technology and media used in contemporary live performance, such as moving lights, projections, film, video and digital animation.				A graduate acting class focused on Shakespeare and period styles.		
					Prereq: Not open to students with credit for 781.		
5771.10	Strutting and Fretting Upon the Stage: 400 Years of Shakespeare in Production	U G	3	6813	Advanced Acting Studio III	G	3
	Explores the history of Shakespeare's plays in production over the last four centuries. Students will seek to understand how his plays reflect the historical moments in which they are interpreted. Students will research and present on a specific production.				A graduate acting class focused on contemporary non-realistic acting and acting for the camera.		
					Prereq: Not open to students with credit for 782.		
5798.01	Study Tour: Domestic	U G	1 - 12	6821	Foundational Skills in Voice	G	3
	Group domestic travel experience. Specific content, location, prerequisites, and semester of offering vary.				A graduate course in voice production for the theatre.		
	Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 4 completions.				Prereq: Permission of instructor. Not open to students with credit for 786.		
5798.02	Study Tour: International	U G	1 - 12	6831	Mime and Stage Combat	G	3
	Group foreign travel experience. Specific content, location, prerequisites, and semester of offering vary.				Focus on Etienne Decroux and Marcel Marceau's techniques and styles and include techniques of Stage Combat.		
	Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 4 completions.				Prereq: Permission of instructor. Not open to students with credit for 685 and 687.		
5831	Mime	U G	3				
	Introduction to Mime: This course will focus on Etienne Decroux and Marcel Marceau's techniques and styles.						
	Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.						

6999 Research in Theatre: Thesis	G	1 - 4	
Research for thesis purposes only.			
Repeatable to a maximum of 16 cr hrs or 4 completions. This course is graded S/U.			
7000.01 Practicum: Stage Management	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7000.02 Practicum: Sound	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7000.03 Practicum: Video	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7000.04 Practicum: Stage Design	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7000.05 Practicum: Costuming & Makeup	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7000.06 Practicum: Lighting	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7000.07 Practicum: Dramaturgy	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7000.08 Practicum: Acting	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor by audition. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7000.09 Practicum: General	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7000.11 Practicum: Theatre Management	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7000.14 Practicum: Technical Direction	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7000.18 Practicum: Directing	G	1 - 5	
Individual theatrical performance and production activities at an advanced level under faculty supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
7189 Field Work in Theatre, Cinema, or Video	G	1 - 12	
Planned production or management experience in an off-campus professional, educational, community theatre, film or video facility, or other agency under supervision.			
Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 3 completions. This course is graded S/U.			
7311 Advanced Moving Image Art	G	3	
Exploration of sketchbook approach to research and development of creative cinema/video projects.			
Prereq: Permission of instructor. Not open to students with credit for 813.			
7312 Screen Media	G	3	
Exploration of video images in conjunction with live performance, installation or adaptation of theatre works through the integration and expansion of technical and analytical skills.			
Prereq: Permission of instructor. Not open to students with credit for 814.			
7511 Advanced Costume Design	G	3	
Exploration of advanced topics in costume design, including historical drama, comedy, musicals, opera and dance. Emphasis on various rendering techniques and fabrication of designs.			
Prereq: 5211 and 5212. Repeatable to a maximum of 9 cr hrs.			
7701 Greek, Roman and Medieval Theatre and Performance: History, Literature and Theory	G	4	
Advanced study and directed research in Greek, Roman, Medieval performance texts, criticism and history.			
7702 Early Modern to the Enlightenment: Theatre, Performance, Theory, Text	G	4	
Advanced study and directed research in early modern to Enlightenment theatre, performance, theory and criticism.			
7703 Mass Entertainment, Modernism and the Rise of Realism	G	4	
Advanced study of popular entertainment in the mid to late 19th century, the rise of realism, performance, theory and criticism.			
7704 Contemporary Theatre and Performance: Experimentation and New Media	G	4	
Advanced study of contemporary performance with particular focus on the Wexner Center for the Arts season, including New Works and New Media, theory and criticism.			
7821 Advanced Dialects	G	3	
Dialect analysis and acquisition for the theatre.			
Prereq: Not open to students with credit for 880.			
7831 Advanced Movement	G	3	
Fundamentals of movement for actors: Studies in how the body (the actor's instrument) works and how the body moves.			
Prereq: Not open to students with credit for 781 and 887.			
7832 Viewpoints and Suzuki Physical Acting	G	3	
Viewpoints training: Method of improvisation that builds ensembles, while strengthening acting, directing and choreography. Suzuki, a martial arts style of physical training, will be incorporated.			
Prereq: Not open to students with credit for 773 and 887.			
7841 Advanced Script Analysis for the Actor	G	3	
Advanced script analysis for the actor that explores different approaches to text based on the stylistic demands of a play.			
Prereq: Not open to students with credit for 710.			
7899.01 Criticism and Theory	G	2 - 4	
Special Topics Seminar in Criticism and Theory.			
Repeatable to a maximum of 32 cr hrs or 8 completions.			
7899.02 New Media and Performance	G	2 - 4	
Special Topics Seminar in New Media and Performance.			
Repeatable to a maximum of 32 cr hrs or 8 completions.			
7899.03 Dramatic Literature	G	2 - 4	
Special Topics Seminar in Dramatic Literature.			
Repeatable to a maximum of 32 cr hrs or 8 completions.			
7899.04 Performance Studies	G	2 - 4	
Special Topics Seminar in Performance Studies.			
Repeatable to a maximum of 32 cr hrs or 8 completions.			
7899.05 Physical and Devised Theatre	G	2 - 4	
Special Topics Seminar in Physical and Devised Theatre.			
Repeatable to a maximum of 32 cr hrs or 8 completions.			
7899.06 Playwriting	G	2 - 4	
Special Topics Seminar in Playwriting.			
Repeatable to a maximum of 32 cr hrs or 8 completions.			
7899.07 Special Topics: Theatre History	G	2 - 4	
Special Topics Seminar in Theatre History.			
Repeatable to a maximum of 32 cr hrs or 8 completions.			
7911 Composition	G	3	
Advanced instruction in learning multiple ways of creating new performance work.			
Prereq: Not open to students with credit for 888.			
8000.01 Advanced Studies: Stage Management	G	1 - 5	
Advanced Studies in Stage Management.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
8000.02 Advanced Studies: Sound	G	1 - 5	
Advanced Studies in Sound.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
8000.03 Advanced Studies: Video	G	1 - 5	
Advanced Studies in Video.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			
8000.04 Advanced Studies: Stage Design	G	1 - 5	
Advanced Studies in Stage Design.			
Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.			

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8000.05 Advanced Studies: Costuming & Makeup	G	1 - 5	8798.02 Study Tour: International	G	1 - 12
Advanced Studies in Costuming and Makeup. Prereq: Permission of Instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.06 Advanced Studies: Lighting	G	1 - 5	8811 Advanced Acting Studio IV	G	3
Advanced Studies in Lighting. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.07 Advanced Studies: Dramaturgy	G	1 - 5	8911 Devising: Techniques of Creating New Work	G	3
Advanced Studies in Dramaturgy. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.08 Advanced Studies: Acting	G	1 - 5	8912 Solo Projects	G	3
Advanced Studies in Acting. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.09 Advanced Studies: General	G	1 - 5	8921 Outreach and Engagement	G	3
General. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.11 Advanced Studies: Theatre Management	G	1 - 5	8990 Directed Teaching Experience in Theatre	G	1 - 3
Advanced Studies in Theatre Management. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.14 Advanced Studies: Technical Direction	G	1 - 5	8995 Proseminar	G	1 - 5
Advanced Studies in Technical Direction. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.17 Advanced Studies: Criticism	G	1 - 5	8999 Research in Theatre: Dissertation	G	1 - 3
Advanced Studies in Criticism. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.18 Advanced Studies: Directing	G	1 - 5	Turkish		
Advanced Studies in Directing. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.27 Advanced Studies: Theory	G	1 - 5	1101 Elementary Turkish I	U	4
Advanced Studies in Theory. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.37 Advanced Studies: History	G	1 - 5	Introduction to Turkish; development of listening, reading, speaking, and writing skills. Prereq: Not open to students with credit for 101, to native speakers through regular enrollment, or EM credit. This course is available for EM credit. GE for lang.		
Advanced Studies in History. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.46 Advanced Studies: Playwriting	G	1 - 5	1102 Elementary Turkish II	U	4
Advanced Studies in Playwriting. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8000.47 Advanced Studies: Dramatic Literature	G	1 - 5	Further development of listening, writing, speaking, and reading skills; reading of simplified Turkish texts. Not open to native speakers through regular enrollment or EM credit. Prereq: 1101. Not open to students with credit for 102. This course is available for EM credit. GE for lang course.		
Advanced Studies in Dramatic Literature. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.					
8193 Individual Studies	G	1 - 3	1103 Intermediate Turkish I	U	4
Conference, library, and laboratory work. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.					
8411 Advanced Scenic Design	G	3	Reading of Turkish short stories and poems with attention to literary and cultural appreciation; development of basic language skills. Not open to native speakers through regular enrollment or EM credit. Prereq: 1102. Not open to students with credit for 101, 102, or 103. This course is available for EM credit. GE for lang course.		
Advanced topics in scenic design including musicals, opera and dance; design for alternative venues including industrials, themed entertainment, events and exhibitions. Prereq: 5211 and 5212. Repeatable to a maximum of 9 cr hrs.					
8521 Advanced Topics in Costume Technology	G	2 - 4	2101 Intermediate Turkish II	U	4
Advanced topic in draping, tailoring, costume crafts, millinery, wig and hair styling. Repeatable to a maximum of 12 cr hrs or 3 completions.					
8611 Advanced Lighting Design	G	3	Extensive reading from literary texts, with practice in conversation and composition. Not open to native speakers of this language. Prereq: 1103. Not open to students with credit for 201.		
Advanced topics in lighting design including musicals, operas, installations, design research and investigation in sources located in design collections held at the Theatre Research Institute. Prereq: 5611 and 6651. Repeatable to a maximum of 9 cr hrs.					
8621 Advanced Topics in Lighting Technology	G	2 - 4	2102 Intermediate Turkish III	U	4
Practical application of theories and techniques of lighting technology, with an emphasis on moving (or automated) lighting equipment, data, and control systems. Repeatable to a maximum of 12 cr hrs or 3 completions.					
8700.01 Candidacy Exam Preparation: Area of Specialization	G	1 - 4	The study of nineteenth and twentieth-century texts, with advanced composition and translation. Prereq: 2101. Not open to students with credit for 202.		
Preparation for PhD candidacy examination in the student's area of specialization to be undertaken in tutorial with their faculty advisor.					
8700.02 Candidacy Exam Preparation: Cognate Area 1	G	1 - 4	2193 Individual Studies	U	1 - 5
Preparation for PhD candidacy examination in the student's area of specialization to be undertaken in tutorial with their faculty advisor.					
8700.03 Candidacy Exam Preparation: Cognate Area II	G	1 - 4	Individual studies. Prereq: Permission of instructor or department. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.		
Preparation for PhD candidacy examination in the student's Cognate Area II to be undertaken in tutorial with their faculty advisor.					
2241 Turkish Culture	U	3	2194 Group Studies	U	1 - 5
An introduction to Turkish culture through reading of literature and criticism, and listening and viewing of films, slides, and performances arranged for the class. Prereq: Not open to students with credit for 241. GE cultures and ideas and diversity global studies course.					

2701	Turkish Literature in Translation	U	3
A study of Turkish literature and the history of its discourses, genres, and styles. Prereq: Not open to students with credit for 372. GE lit and diversity global studies course.			
3001	Advanced Turkish Syntax	U	4
Focuses on the acquisition of advanced Turkish syntax, and specifically on subordinate clauses. It will include advanced readings in literature and non-fiction. Prereq: 2102.			
4999H	Honors Research	U	1 - 3
A program of research for individual students which includes individual conferences and culminates in an honors thesis or oral defense. Prereq: Approved candidacy for graduation with distinction, which includes faculty adviser and ASC Honors Committee approval of project. A minimum 3.5 pt-hr ratio in the field of distinction, Sr standing, and CPHR commensurate with honors program membership. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.			
5193	Individual Studies	U G	1 - 10
Individual Studies. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.			
5194	Group Studies	U G	1 - 10
Group studies. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions.			
5377	Turkish Theatre, Music, & Dance	U G	3
Cross-cultural, multidisciplinary exploration of Turkish theatre, music, and dance in Anatolian folk traditions, classical Ottoman works, 20th Century movements, and those of the present day. Students address theoretical questions of Performance Studies with guided research, historical and ethnographic texts, and performance workshops. Prereq: Jr, Sr, or Grad standing; or permission of instructor.			
7193	Independent Study	G	1 - 10
Content varies. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.			

Uzbek

1101	Elementary Uzbek I	U	4
Introduction to Uzbek language; development of listening, reading, speaking and writing skills. Prereq: Not available to native speakers. This course is available for EM credit. GE for lang course.			
1102	Elementary Uzbek II	U	4
Continued study of Uzbek Language, with appropriate cultural background; further development of listening, reading, speaking, and writing skills. Not open to native speakers. Prereq: 1101. This course is available for EM credit. GE for lang course.			
1103	Intermediate Uzbek I	U	4
Continued study of Uzbek Language, with appropriate cultural background; further development of listening, reading, speaking, and writing skills. Not open to native speakers. Prereq: 1102. This course is available for EM credit. GE for lang course.			
2101	Intermediate Uzbek II	U	4
Extensive reading from literary texts, with practice in conversation and composition. Not open to native speakers. Prereq: 1103.			
2102	Intermediate Uzbek III	U	3
Continued reading from literary texts, with further practice in conversation, composition, and translation. Not open to native speakers. Prereq: 2101.			
3102	Advanced Uzbek	U	3
This course aims: to increase fluency in oral expression; develop skills in listening, reading and writing; extend knowledge of literary Uzbek language; and enable research in Uzbek. Course will use four skills approach as well as communicative. Using authentic language materials (newspapers, journals, TV programs) will be emphasized. Prereq: 2102			

Veterinary Biosciences

6640	Fundamentals of Oncology	G V	4
Oriented towards graduate students in cancer-related programs, consisting of a series of lectures covering a variety of aspects of experimental oncology. Cross-listed in Pathol.			
7190.02	Applied Veterinary Medicine Experience	V	2 - 16
Field or laboratory study in the various areas of veterinary medicine through an approved experience with qualified professionals. Prereq: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 22 cr hrs or 11 completions.			

7193.01	Individual Studies in Veterinary Biosciences	G V	1 - 8
Laboratory, library, conference, and reports concerning animal disease problems. This course is to be used by Masters students for research experiences and for Doctoral students prior to candidacy.			
Repeatable to a maximum of 60 cr hrs or 60 completions. This course is graded S/U.			
7193.02			
7193.02	Individual Studies in Veterinary Biosciences	G V	1 - 2
Laboratory, library, conference, and reports concerning animal disease problems. The faculty and student agree on a course project suitable for a letter grade.			
Prereq: Grad or Prof standing in Veterinary Medicine program, and permission of instructor. Not open to students with credit for 696. Repeatable to a maximum of 5 cr hrs.			
7194.01	Group Studies in Veterinary Biosciences	G V	1
Group studies course in topic areas of veterinary biosciences.			
Prereq: Grad standing, or standing in VetMed program, or DVM, or equiv. This course is graded S/U.			
7194.02	Group Studies in Veterinary Biosciences	G V	1 - 3
Group studies course in topic areas of veterinary biosciences.			
Prereq: Grad standing, or standing in Veterinary Medicine program, or DVM, or equiv.			
Repeatable to a maximum of 15 cr hrs.			
7700	Functional Neuroanatomy	V	2
Structure and function of the Central Nervous System (CNS) studied through discussion and dissection with emphasis on three-dimensional relationships of selected brain and spinal cord regions.			
Prereq: VMColl 603. Not open to students with credit for 700.			
7710.14	Applied Veterinary Medicine: Applied Pathology	V	2
Students will perform necropsies of the major domestic species in the applied pathology rotation. The will learn to recognize and describe common gross pathologic lesions and become familiar with the role of histopathology in assessment of necropsy a			
Prereq: 4th yr standing in Veterinary Medicine Program. Not open to students with credit for VetClin 710.14. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.			
7710.50	Applied Veterinary Medicine: Clinical Pathology	V	2
Clinical experience in daily review of cytologies and blood smears from clinical cases using a multileadered microscope. Data from serum biochemical profiles and ancillary tests also will be reviewed. Teaching sets are available for additional review.			
Prereq: 4th yr standing in Veterinary Medicine Program. Not open to students with credit for 724. This course is graded S/U.			
7711	Basic Macroscopic Pathology	G V	1
Basic process of identifying gross lesions in domestic animals and some exotic species.			
Prereq: Not open to students with credit for 711.			
7712	Applied Veterinary Clinical Pathology	V	½
Designed to review how to evaluate cytology samples from various body systems using a videomicroscope and projected images.			
Prereq: VetMed 6618 (618). Not open to students with credit for 710.			
7715	Applied Virology	G V	1
Problem-based cases will be used to promote self-directed learning in the concepts of virus-induced disease. Emphasis will be on the development of thinking skills to identify questions and problems related to virus-associated diseases in animals.			
Prereq: Grad standing or professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 715.			
7720	Applied Histopathology	G V	2
Interpret histological tissue in actual case material. These changes will be interpreted in the context of clinical history and gross post-mortem findings in order to reconstruct the disease progression.			
Prereq: VMColl 6550.02 (550.02) and 6530 (530), or permission of instructor. Not open to students with credit for 719 of 720.			
7741	Molecular Biology and Pathogenesis of Viruses	G V	5
An integrated study of the molecular mechanisms of virus replication and host-virus relationships that control virus pathogenesis or use as a therapeutic agent.			
Prereq: Grad or Prof standing in Veterinary Medicine program, or permission of instructor. Not open to students with credit for 741. Cross-listed in MolGen and MVImg.			
7777	Veterinary Plant Toxicology	V	1
To familiarize the veterinary student with toxic plants and their diagnosis and treatment of toxicity.			
Prereq: Prof standing in Veterinary Medicine program, or permission of instructor. Not open to students with credit for 777.			
7790	Electrocardiography	G V	2
Genesis of components of the ECG. ECG changes indicating: disturbance in rhythm, chamber enlargement, abnormal AV conduction, abnormal inter/intra-ventricular conduction, myocardial injury, electrolyte disturbance, drug toxicity.			
Prereq: grad or professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 790.			

430 Veterinary Biosciences

7791	Heart Sounds, Pressure Pulses, and Pressure-Volume Loops	G V	2
Physiological origin of heart sounds, murmurs, pressure pulses, and pressure-volume loops in health and disease.			
Prereq: 2nd or 3rd year standing for Veterinary Professional students. Not open to students with credit for 791.			
7800	Canine Surgical Anatomy	V	2
Detailed study of regional anatomy of the thoracic and pelvic limbs as it relates to selected surgical approaches to the limb and joints.			
Prereq: VMColl 520, and professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 693. This course is graded S/U.			
7801	Advanced Feline Veterinary Anatomy	V	2
Detailed study of feline body systems based on a regional anatomic approach and small group presentation.			
Prereq: VMColl 520, and professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 693. This course is graded S/U.			
7807	Gene Expression: Post-Transcriptional Control	G V	3
Intensive study of problems in the general area of post-transcriptional control of gene expression. The course consists of student presentations and class evaluations of recently published results in these fields.			
Prereq: Grad or professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 880.07. Cross-listed in MolGen 7807.			
7852	Hematology Case Discussion	V	½
A discussion of laboratory data from clinical cases in an interactive small group setting. The focus is on hematology. Weekly case discussions require student participation.			
Prereq: VMColl 6618 (618), and 3rd-year standing in Veterinary Medicine program. Not open to students with credit for 852. This course is graded S/U.			
7900	Data Management for Researchers	G	1
Covers all aspects of research data management best practices, as defined by funding agency requirements. Topics include planning for data organization, documentation, preservation, and sharing in an increasingly complex digital environment.			
8739	Specialty Training in Clinical Pathology	G	1 - 10
In-depth study of common laboratory tests, specialized and ancillary laboratory tests, principles of laboratory testing, and quality assurance with an emphasis on data analysis from clinical patients.			
Prereq: Grad or Doct standing in VMColl, or equiv, or permission of instructor. Not open to students with credit for 739. Repeatable to a maximum of 50 cr hrs or 10 completions. This course is graded S/U.			
8810	Advanced Systemic Pathology 1: Laboratory Animal Pathology	G	2
Lecture course covering the principle diseases of laboratory mice, rats, nonhuman primates rabbits, guinea pigs, hamsters, gerbils, and fish as well as lower vertebrates and animals in zoological collections and wildlife species.			
Prereq: DVM or equiv. Not open to students with credit for 810.			
8811	Advanced Systemic Pathology 2	G	2
Advanced pathology covering the reproductive, endocrine, ophthalmic, and cardiovascular systems of domestic animals.			
Prereq: VetBios students in the Combined Pathology Residency/PhD program, or DVM students; or permission of team leader. Not open to students with credit for 811.			
8812	Advanced Systemic Pathology 3	G	2
Advanced pathology covering the respiratory, nervous, and musculoskeletal systems of domestic animals.			
Prereq: DVM or equiv. Not open to students with credit for 812.			
8813	Advanced Systemic Pathology IV	G	2
Advanced Pathology covering the hemic-lymphatic, hepatobiliary, digestive systems, and dermatopathology.			
Prereq: Enrollment in DVM degree program, or equiv.			
8814	Advanced Systemic Pathology 5	G V	1
Advanced pathology covering the hemic-lymphatic system of domestic animals.			
Prereq: VetBios students in the Combined Pathology Residency/PhD Program, or DVM students; or permission of team leader.			
8815	Advanced Systemic Pathology VI	G V	1
Advanced pathology covering the urinary system of domestic animals.			
Prereq: VetBios students in the Combined Pathology Residency/PhD program, or DVM students; or permission of team leader.			
8855	Commercialization for Researchers and Healthcare Professionals	G	2
Teaches the basics of commercialization of university discoveries including invention reporting and assessment, intellectual property, project development, market analysis, marketing, licensing, startups, and conflicts of interests.			
Repeatable to a maximum of 4 cr hrs.			

8891	Research Seminar in Veterinary Biosciences	G	V	1
Presentation of new scientific knowledge in weekly seminars by faculty and graduate students.				
Prereq:	Grad standing or Prof standing in Veterinary Medicine program. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.			
8893.01 Applied Comparative Pathology G 1 - 4				
Advanced training in gross dissection and interpretation of gross lesions in animals.				
Prereq:	DVM degree or equiv. Not open to students with credit for 718. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.			
8893.02 Veterinary Surgical Pathology G 1				
Case-based from surgical biopsies from the Veterinary Medical Center. Students cut in biopsy material, interpret prepared slides, make a diagnosis and write reports under supervision of a faculty pathologist.				
Prereq:	Grad standing in Veterinary Medicine Program, and DVM degree; or equiv. Not open to students with credit for 815. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
8895.02 Seminars in Diagnostic Veterinary Pathology G 1				
Seminars correlating lesion interpretation, pathogenesis and clinical signs in veterinary cardio-, dermato-, gross, lab animal, large animal, neuro-, ophthalmic, surgical, and zoo pathology.				
Prereq:	Grad standing in Veterinary Medicine program, or permission of instructor. Not open to students with credit for 795. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.			
8895.03 Seminar in Veterinary Clinical Pathology G 1				
Designed to prepare clinical pathology residents for a career in clinical pathology through in-depth discussion of the principles and application of laboratory testing and quality assurance and interpretation of laboratory data.				
Prereq:	Grad or Doct standing in VMColl, or equiv, or permission of instructor. Not open to students with credit for 800.01. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.			
8895.04 Veterinary Histopathology Seminar G 1				
Weekly histopathology seminars to establish written and oral microscopic descriptive skills and correlate interpretation with pathogenesis.				
Prereq:	Grad standing or permission of instructor. Not open to students with credit for 800.02. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.			
8999 Research in Veterinary Biosciences G 1 - 10				
Research for dissertation purposes only.				
Prereq:	Grad standing in Veterinary Medicine program; or permission of instructor. Not open to students with max credit for 999. Repeatable to a maximum of 60 cr hrs or 60 completions. This course is graded S/U.			
Veterinary Clinical Sciences				
7193.01 Independent Studies in Veterinary Clinical Sciences G V 1 - 8				
A supervised critical investigation of some aspects of animal disease about which there is mutual curiosity of both students and faculty. This course covers research experiences of Masters students and Doctoral students prior to candidacy.				
Prereq:	Standing in Veterinary Medicine program, or Grad standing. Repeatable to a maximum of 60 cr hrs or 60 completions. This course is graded S/U.			
7193.02 Individual Studies in Veterinary Clinical Sciences G V 1 - 2				
A supervised critical investigation of some aspects of animal disease about which there is mutual curiosity of both students and faculty. The faculty and student agree on a course project suitable for a letter grade.				
Prereq:	Grad or Prof standing in Veterinary Medicine program, and permission of instructor. Repeatable to a maximum of 5 cr hrs.			
7194.01 Group Studies in Veterinary Clinical Sciences G V 1 - 3				
Group studies course in topic areas of veterinary clinical sciences.				
Prereq:	Grad standing in Veterinary Medicine program, or equiv. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.			
7194.02 Group Studies in Veterinary Clinical Sciences G V 1 - 3				
Graded group studies course in topic areas of veterinary clinical sciences.				
Prereq:	Grad standing, DVM or equivalent, or veterinary medicine program standing.			
7622 Advanced Equine Medical and Surgical Procedures V 1				
A laboratory course designed to develop skills in ultrasound examination, proper use of diagnostic nerve blocks and intra-articular injections, and surgical procedures in the horse.				
Prereq:	VMColl 7617 and 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 622.01.			
7700.99 Applied Veterinary Medicine: General Rotation V 1				
Students participate in various clinical rotations to reinforce knowledge and clinical practice.				
Prereq:	4th yr standing in Veterinary Medicine program. This course is graded S/U.			
7710.01 Applied Veterinary Medicine: Community Practice V 2				
Problem-solving and clinical skills taught by physical examination, diagnosis and treatment of client-owned animals. Disease prevention and client education are emphasized, such as nutrition, vaccinations, parasite control, dentistry, animal behavior.				
Prereq:	4th year standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.			

7710.02 Applied Veterinary Medicine: Shelter Medicine V 2

This two week clinical elective provides 4th year vet. students an opportunity for hands on experience in veterinary shelter medicine in a privately funded, non-profit, managed admission shelter, the Capital Area Humane Society.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.03 Applied Veterinary Medicine: Small Animal Internal Medicine V 2

Patient diagnosis and management in small animal internal medicine service, including patient care responsibility, client communication, and interactions with all members of the patient care team. Students will build on and apply knowledge gained.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.04 Applied Veterinary Medicine: Small Animal Surgery - Soft Tissue V 2

Clinical experience in the management of surgical diseases of small animal patients. Students will be responsible for the preoperative, operative, and postoperative treatment for animals presented to the small animal surgery soft tissue service.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.05 Applied Veterinary Medicine: Small Animal Surgery - Orthopedics V 2

Clinical experience in the surgical management of orthopedic diseases of small animal patients. Students will be responsible for the preoperative, operative, and postoperative treatment of patients presented for small animal orthopedic surgery.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.06 Applied Veterinary Medicine: Farm Animal Medicine and Surgery V 2

Diagnosis, management, and prevention of medical and surgical diseases of farm animals. Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.07 Applied Veterinary Medicine: Large Animal Ambulatory Services V 2

Provides students with experience working in a large animal clinic, including patient care and business management aspects. Provides instruction in production medicine and its role in modern agriculture.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.08 Applied Veterinary Medicine: Equine Medicine V 2

Application of the principles of diagnosis, treatment, and prevention of medical diseases of horses.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.09 Applied Veterinary Medicine: Equine Surgery V 2

Application of the principles of diagnosis, treatment, and prevention of surgical diseases of horses.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.10 Applied Veterinary Medicine: Equine Field Service V 2

Application of the principles of diagnosis, treatment, and prevention of diseases of horses.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.13 Applied Veterinary Medicine: Clinical Anesthesiology V 2

Students will assess large and small animal patients for anesthesia, select proper anesthesia protocols, learn proper use of anesthetic equipment, and induce, maintain, monitor, and recover patients in a supervised hospital anesthesia practice.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.15 Applied Veterinary Medicine: Small Animal Critical Care V 2

Evaluation, monitoring and management of small animal patients in the intensive care unit and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.16 Applied Veterinary Medicine: Small Animal Emergency V 2

Evaluation and management of small animal patients presented to the emergency service and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum.

Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 710.11. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.17 Applied Veterinary Medicine: Comparative Ophthalmology V 2

Application of principles of diagnosis and treatment of diseases of the eye to animal patients, including dogs, cats, horses, and farm animals.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.18 Applied Veterinary Medicine: Dermatology V 2

Patient diagnosis and management in the dermatology service, including patient care, client communication, and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.19 Applied Veterinary Medicine: Cardiology V 2

Clinical instruction in diagnosis, treatment and prevention of cardiovascular diseases of animals, including patient care, client communication, and interactions with all members of the patient care team.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.20 Applied Veterinary Medicine: Small Animal Neurology V 2

Patient diagnosis and management in the neurology service including patient care, client communication, and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.21 Applied Veterinary Medicine: Small Animal Oncology V 2

Patient diagnosis and management in the oncology service, including patient care, cytology and imaging interpretation, client communication, and interactions with all members of the patient care team.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.22 Applied Veterinary Medicine: Theriogenology V 2

Clinical experience with diagnosis and treatment of reproductive disorders of dogs, cats, cattle and horses, including assisted reproductive procedures.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.26 Surgical Oncology V 2

Senior veterinary students will learn and understand a comprehensive approach to cancer management in small animals. They will learn the principles of surgical oncology, postoperative management, and follow-up care. This rotation is meant to strengthen and enhance their knowledge of surgical diseases, perioperative monitoring and care, and technical skills.

Prereq: 4th year standing in VetMed.

7710.50 Applied Veterinary Medicine: Diagnostic Imaging V 2

Students will further develop their image interpretation skills. Emphasis on conventional radiography but alternate imaging modalities such as CT, MRI and nuclear medicine may be included. Students may customize their learning experience based on their area of interest (e.g. equine, small animal, food animal). Students are not expected to participate in the technical aspects of diagnostic imaging.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.51 Applied Veterinary Medicine: Ultrasonography V 2

Clinical experience with diagnostic ultrasonography for veterinary students working under daily direction of the ultrasound technologist, faculty or resident in radiology.

Prereq: 4th yr standing in Veterinary Medicine program. This course is graded S/U.

7710.52 Applied Veterinary Medicine: Radiation Oncology V 2

Clinical experience in radiation oncology for veterinary students working under the daily direction of technologists, residents and faculty in radiology.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.53 Applied Veterinary Medicine: Small Animal Rehabilitation and Sports Medicine V 2

Clinical exposure to rehabilitation. Students will be responsible for patient care and selected treatment modalities of animals presented to the Rehabilitation and Sports Medicine Service.

Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.54 Applied Veterinary Medicine: Small Animal Behavior V 2

Students will observe and participate in behavioral medicine appointments as well as gain clinical experience in behavior wellness and low stress handling. Students will learn to assess and diagnose behavior and to create treatment and management plans for both Behavioral Medicine and Community Practice patients.

Prereq: 4th yr standing in the Professional Veterinary Program. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

7718 Clinical Problem Solving and Treatment in Small Animals I - Internal Medicine V 2

Exposes the student to approximately 30 clinical cases likely to be encountered in internal medicine of sick dogs and cats using an interactive format with progressive disclosure of information to the students.

Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 718.

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7719	Clinical Problem Solving and Treatment in Small Animals II - Medical Subspecialties	V	2	7747	Small Ruminant Medicine and Surgery	G	V	2
	Problem-oriented course using case discussions to teach the diagnostic and therapeutic approach to the most common clinical problems in small animal internal medicine.				Common medical, surgical, and management related problems in sheep, goats, and South American camelids.			
	Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 719.				Prereq: DVM or equiv, or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 747.			
7720	Introduction to Small Animal Clinical Nutrition	V	1	7748	Topics in Food Animal Medicine and Surgery	G	1	
	Basic concepts and principles of veterinary clinical nutrition and application of these concepts and principles to the nutritional care of small animal patients.				This literature based course affords the student opportunities to review the recent food-animal literature and present their review. Faculty will facilitate discussion.			
	Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 720.01.							
7721	Dialysis Therapy	G	1	7749	Equine Ophthalmology	V	1	
	Introduction to principles and practice of dialysis and related therapies.				Comprehensive problem-based discussions of equine ophthalmic cases, clinical patient examinations, and stall-side rounds, ophthalmic techniques laboratory and cadaver surgery laboratory.			
7722	Clinical Problems in Small Animal Cardiology	V	1		Prereq: VMColl 6612; 3rd year standing in Veterinary Medicine program. Not open to students with credit for 749.			
	Skills in physical examination, radiographic and electrocardiographic interpretation, and management of common cardiovascular diseases in a small group setting.			7750	Veterinary Anesthesia and Analgesia Pharmacology	G	2	
	Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 722.				Pharmacology of sedatives, anesthetics, and analgesics, pain mechanisms, and therapies as related to veterinary clinical patients.			
7723	Emergency & Critical Care Volunteer Program	V	1	7751	Equine Anesthesiology	G	V	1
	Clinical exposure to emergency receiving and medical management of hospitalized patients in the intensive care unit through volunteer shifts with the emergency and critical care service and attendance at clinical teaching rounds.				Review of the literature on equine anesthesia.			
	Prereq: 1st (second semester), 2nd, or 3rd yr standing in Veterinary Medicine program. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.				Prereq: DVM or equiv, or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 751. This course is graded S/U.			
7724	Feline Medicine	V	1	7752	Advanced Veterinary Clinical Neurology	V	1	
	Survey of medical diseases unique to the cat and their management.				Presentation and discussion of common neurological problems and diseases.			
	Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 724. This course is graded S/U.				Prereq: 6603; 3rd year standing in Veterinary Medicine program. This course is graded S/U.			
7727	Avian Medicine and Surgery	V	2	7754	Veterinary Clinical Oncology	V	2	
	An overview of all aspects of avian medicine including nutrition, behavior, captive management, diagnostic and therapeutic techniques, disease problems, anesthesia and surgery. Includes companion birds, wildlife, backyard poultry and zoo species.				Provides veterinary students with advanced knowledge and understanding of oncology, including cancer diagnosis, chemotherapy, and client communications.			
	Prereq: 2nd or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 727.				Prereq: Third-year standing in veterinary medicine program.			
7728	Veterinary Clinical Endocrinology	V	1	7762	Clinical Veterinary Ophthalmology	V	1	
	To familiarize pre-clinical veterinary students with the clinical presentation, laboratory abnormalities, and treatment of common endocrine disorders of dogs and cats.				A problem-based approach to differential diagnosis, final diagnosis, and treatment of ophthalmic diseases in large and small animals.			
	Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 728. This course is graded S/U.				Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 762. This course is graded S/U.			
7732	Equine Lameness and Gait Abnormalities	V	1½	7768	Integrative Medicine	V	1	
	Acquaints students with conditions of the horse that produce gait abnormalities as the presenting clinical complaint.				Overview of integrative medicine, including discussion of the basic science behind complementary modalities as well as their clinical effectiveness. Research considerations also will be presented.			
	Prereq: 2nd or 3rd year standing in Veterinary Medicine program. Not open to students with credit for 732.				Prereq: 1st (second semester), 2nd, 3rd, or 4th yr standing in Veterinary Medicine program. Not open to students with credit for 768.			
7733	Advanced Equine Medicine	V	2	7771	Applied Veterinary Clinical Dermatology	G	V	1
	Common medical problems in adult horses and foals using a problem-oriented, intensive approach.				Case-based problem-oriented studies of common dermatologic problems in dogs and cats.			
	Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 733.				Prereq: 6606, and 3rd yr standing in Veterinary Medicine program or Grad standing; or permission of instructor.			
7737	Equine Intensive Care	V	1	7772	Equine Cardiology	G	V	1
	Students will be taught to critically evaluate, treat and monitor patients in the equine intensive care unit through supervised patient contact and weekly seminars.				Clinical approach to the diagnosis and management of spontaneous cardiovascular diseases in the horse.			
	Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 737.				Prereq: DVM or equiv or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 783.			
7738	Basic Equine Medicine	V	2	7773	Large Animal Radiographic Interpretation	V	2	
	Basic equine medicine and surgery, particularly as it applies to the pleasure horse population. Presented from the generalist's perspective and addressing problems most frequently encountered.				A review and practice of radiographic anatomy and interpretative skills of large animal diagnostic images with emphasis on the musculoskeletal system.			
	Prereq: 2nd or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 738.				Prereq: 3rd yr standing in Veterinary Medicine program.			
7743	Basic Exotic Animal Medicine - Small Mammals	V	2	7774	Introduction to Alternate Imaging and Contrast Radiography	V	1	
	Provides a basic background for a new graduate veterinarian regarding exotic species commonly treated in a companion animal setting. The focus will be on mammalian species.				Basics of contrast radiography and alternative imaging modalities (ultrasonography, computed tomography, magnetic resonance imaging, scintigraphy) and an overview of their use as diagnostic tools in veterinary medicine.			
	Prereq: Grad or professional standing in Veterinary Medicine program. Not open to students with credit for 743.				Prereq: 1st yr (second semester) or 2nd yr standing in Veterinary Medicine program. Not open to students with credit for VMColl 526.			
7746	Cattle Diseases	G	V	7775	Anesthesia Case Management	V	1	
	Diagnosis and treatment of medical and surgical diseases of individual cattle.				Covers anesthetic management of veterinary patients for elective and emergency procedures.			
	Prereq: 2nd or 3rd yr standing in Veterinary Medicine program, or Grad standing.				Prereq: Third-year standing in veterinary medicine program.			
7746.02	Cattle Diseases II	V	2	7776	Radiobiology for the Radiologist	G	1	
	Builds upon concepts provided in CDE I. Like the 1st half of this course, basic organ system related diseases of cattle are covered in other courses.				This course is intended to review the ACVR Radiobiology objective in preparation for the ACVR preliminary board examination.			
	Prereq: 7746.01.			7778	Puppy Kindergarten	V	1	
					Participation in education of pet owners about behavior wellness and socialization of puppies. The course allows students to observe and influence the development of canine behavior.			
					Prereq: 1st (second semester) or 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 793. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			

7779	Equine Colic Team	V	1	
	Diagnosis, treatment, and prevention of diseases of the equine gastrointestinal system. A practical course, in which the students are assigned on-call duty for emergency colic patients.			
	Prereq: 2nd or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 796.03. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			
7780	Environmental Enrichment for Shelter Dogs	V	1	
	Review the scientific literature on enrichment in shelter animals and discuss practical means of implementation. It will include discussion of means to identify and mitigate stress in shelter dogs to increase their adoptability and hands on involvement with implementing a behavioral enrichment program for dogs at the Franklin County Dog Shelter.			
	Prereq: Standing in the Veterinary Professional curriculum. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.			
7791	Small Animal Theriogenology	G V	1	
	Control of reproductive function in dogs and cats and how to diagnose and devise a treatment plan for infertility due to infectious and noninfectious causes.			
	Prereq: 2nd or 3rd yr standing in Veterinary Medicine program, or Grad standing.			
7793	Lectures in Equine Theriogenology	G V	2	
	Focuses on the pathophysiology of common reproductive disorders and how to devise plans to treat common reproductive disorders in horses.			
	Prereq: 2nd or 3rd yr standing in the Veterinary Medicine program or grad standing. Not open to students with credit for 791.01.			
7794	Equine Theriogenology Laboratory	V	1	
	A laboratory session that will enable students to practice techniques for assessing reproductive function and fertility potential of horses.			
	Prereq: 3rd yr standing in Veterinary Medicine program, and enrollment in the Equine Career Area of Emphasis; or permission of instructor. Concur: 7793. Not open to students with credit for 791.01.			
7895.02	Seminar in Reproductive Physiology and Medicine	G V	1	
	Critical review of the current literature related to comparative reproductive physiology and medicine. Primary emphasis will be placed on experimental design, methods, and conclusions.			
	Prereq: 1st (second semester), 2nd, or 3rd yr standing in Veterinary Medicine program, and DVM or equiv; or permission of instructor. Not open to students with credit for 790. This course is graded S/U.			
8100	Nuclear Medicine and Special Procedures in Diagnostic Imaging	G	2	
	Reviews basic principles of special procedures in diagnostic imaging. Interpretive principles using case examples and a current review of the literature will be targeted with a focus on the ACVR Examination Objectives.			
	Prereq: Students must have a DVM/VMD, or equiv degree; or permission of instructor.			
8781	Research Methods and Grantsmanship	G	1	
	Introduction to grantsmanship, including the development of a research question, use of appropriate statistical methods, and the preparation of a research proposal that will be reviewed by the class.			
	Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 800.			
8782.01	Techniques in Ophthalmic and Vision Research I	G	1	
	Familiarizes students with current research techniques in comparative ophthalmology. This will include, but not be limited to PCR, cell culture, drug delivery, immunohistochemistry and other common ophthalmic research tools.			
	Prereq: DVM or equiv, or permission of instructor.			
8782.02	Techniques in Ophthalmic and Vision Research II	G	1	
	Familiarizes the student with current research techniques in comparative ophthalmology. This will include, but not be limited to PCR, cell culture, drug delivery, immunohistochemistry and other common ophthalmic research tools.			
	Prereq: 8782.01, and DVM, or equiv; or permission of instructor.			
8783	Experimental Design & Data Analysis in Veterinary & Comparative Medicine I	G	1	
	Principles and practice of study designs and data analyses commonly used in veterinary and comparative medical research.			
	Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 801.			
8784	Experimental Design & Data Analysis in Veterinary & Comparative Medicine II	G	1	
	Introduction to the principles and practice of study designs and data analyses commonly used in veterinary and comparative medical research.			
	Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 801.			
8790	Veterinary Clinical Pharmacology and Therapeutics	G	2	
	Mechanism of action, indications, and potential adverse effects of commonly used drugs.			
	Emphasis will be placed on cellular effects, receptor interactions, and intracellular signaling pathways. Basic pharmacokinetic principles will also be presented.			
8791	Clinical Correlations in Large Animal Medicine & Surgery	G	1	
	The purpose of this course is to develop clinical expertise in large animal medicine through interactive case-based discussions covering pathophysiology, clinical medicine, treatment, and prognosis. Evidence-based medicine will be emphasized.			
	Prereq: DVMS in residency/Grad programs, or by petition of team leader. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.			
8822.02	Advanced Veterinary Internal Medicine: Gastroenterology	G	2	
	In-depth review of the pathophysiology, diagnosis, and medical treatment of selected gastrointestinal diseases of dogs and cats.			
	Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.02.			
8822.03	Advanced Veterinary Internal Medicine: Respiratory Disease	G	2	
	An in-depth review of the pathophysiology, diagnosis, and medical treatment of selected respiratory diseases of dogs and cats.			
	Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.03.			
8822.04	Advanced Veterinary Internal Medicine: Neurology	G	2	
	In-depth review of the pathophysiology, diagnosis, and medical treatment of selected neurologic diseases of dogs and cats. Fundamentals of neurologic examination and lesion localization. Neuro-ophthalmology, hearing disorders, and neurodiagnostics.			
	Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.04.			
8822.06	Advanced Veterinary Internal Medicine: Nephrology and Urology	G	2	
	In-depth review of the pathophysiology, diagnosis, and medical treatment of urinary tract diseases of dogs and cats. Renal physiology relevant to clinical medicine, diagnostic imaging techniques, management of specific urinary tract syndromes.			
	Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.06.			
8822.07	Advanced Veterinary Internal Medicine: Oncology I	G	1	
	This course will provide an introduction to basic cancer biology, medical cancer therapy, cancer diagnosis, experimental tumor model systems, and comparative and translational oncology focusing on lymphoma and sarcoma.			
	Prereq: DVM or equiv, or permission of instructor. Not open to students with credit for 822.07.			
8822.08	Advanced Veterinary Internal Medicine: Hepatology	G	2	
	In-depth review of the pathophysiology, diagnosis, and medical treatment of selected diseases of the hepatobiliary system and pancreas in dogs and cats.			
	Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.08.			
8822.11	Advanced Veterinary Internal Medicine: Comparative Structure and Function of the Integument	G	2	
	Normal anatomy, physiology and functions of the skin and related structures.			
	Prereq: DVM or equiv; or permission of instructor.			
8822.12	Advanced Veterinary Internal Medicine: Otology and Audiology	G	1	
	Designed to introduce the student to the basics of ear disease and audiology.			
	Prereq: DVM or equiv; or permission of instructor.			
8822.13	Equine Musculoskeletal Imaging	G	1	
	Covers all aspects of equine musculoskeletal imaging (radiology, ultrasound, nuclear medicine, MRI) with particular emphasis on pathologic conditions and the best diagnostic modality to document the pathology.			
8822.14	Advanced Veterinary Internal Medicine: Oncology II	G	1	
	This course will discuss principles of the clinical management of veterinary cancer patients, including: pharmacology of cancer drugs, paraneoplastic syndromes, complications of treatment, nutrition, functional imaging, and hospice care.			
8823	Veterinary Core Communications Skill Competency	G	1	
	Competency in core communication skills increases client satisfaction, adherence to treatment recommendations, better outcomes, and decreased risk of claims of malpractice.			
	Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 823. This course is graded S/U.			
8824	Congenital Heart Disease in Animals	G	2	
	An overview and in-depth analysis of congenital malformations of the heart and great vessels in veterinary species. Complex lesions are emphasized, with a focus on the pathophysiology and diagnostic findings.			
	Prereq: DVM degree, and permission of instructor.			
8825	Clinical Echocardiography in Animals	G	2	
	Presents an in-depth review on 2D, Mmode, Doppler, TDI, strain and speckle, and 3D echocardiography. Transthoracic imaging modalities and disease pattern will be studied and discussed. Species focus will be animals and people.			
	Prereq: Advanced knowledge of veterinary cardiac anatomy and physiology.			
8826	Cardiac Catheterization in Veterinary Medicine: Hemodynamics, Angiography & Intervention	G	2	
	Principles and practices of obtaining hemodynamic measurements; performing angiographic techniques for cardiac diagnosis; and delivery of catheter-based therapies in veterinary medicine.			
	Prereq: Enrollment in adv cardiology training, or permission of instructor.			
8827	Advanced Clinical Electrocardiography	G	2	
	This course considers advanced concepts in the recognition and therapy of cardiac arrhythmias in veterinary medicine using in-class EKG interpretation as the springboard for discussions of classification, diagnosis, and therapy. VetBios 7790 completion recommended but not required.			
	Prereq: Enrollment in advanced clinical training; or prior electrocardiography experience and instructor permission.			

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8828.01	Heart Rhythm Disturbances in Veterinary Medicine I: Mechanisms of Arrhythmogenesis	G	1	8844.02	Advanced Large Animal Internal Medicine: Medical and Surgical Gastrointestinal Diseases	G	2½
A three-part course offered over three consecutive semesters with a focus on resident-graduate students training in veterinary cardiology. Part 1: Mechanisms of Arrhythmogenesis; Intra-cardiac electrocardiography; Cardiac conduction disturbances; Cardiac Pacing; Ablation therapies.				Comprehensive review of medical and surgical diseases of the gastrointestinal system of horses and ruminants.			
Prereq: Grad standing in adv cardiology training or instructor permission.				Prereq: DVM or equiv; or permission of instructor.			
8828.02	Heart Rhythm Disturbances in Veterinary Medicine II: Sinus, Atrial, and Supraventricular Rhythm Dist	G	1	8844.03	Advanced Large Animal Internal Medicine: Metabolic and Endocrine Diseases	G	1½
A three-part course offered over three consecutive semesters with a focus on resident-graduate students training in veterinary cardiology. Part 2: Sinus, Atrial and Supraventricular Rhythm Disturbances: Mechanisms of arrhythmogenesis; Recognition using conventional and intracardiac electrocardiography; Standard and advanced treatment modalities.				Species specific and comparative aspects of metabolic and endocrine physiology, pathophysiology and diseases in large animals.			
Prereq: Grad standing in adv cardiology training or instructor permission.				Prereq: DVM or equiv; or permission of instructor.			
8828.03	Heart Rhythm Disturbances in Veterinary Medicine III: Ventricular Rhythm Disturbances	G	1	8844.04	Advanced Large Animal Internal Medicine: Neurology	G	2½
A three-part course offered over three consecutive semesters with a focus on resident-graduate students training in veterinary cardiology. Part 3: Ventricular Rhythm Disturbances: Mechanisms of arrhythmogenesis; Recognition using conventional and intracardiac electrocardiography; Standard and advanced treatment modalities.				Pathophysiology, diagnosis and management of diseases of the nervous system of large animals.			
Prereq: Grad standing in adv cardiology training or instructor permission.				Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.04.			
8833.02	Advanced Veterinary Surgery: Surgical Oncology	G	1	8844.05	Advanced Large Animal Internal Medicine: Hematology and Oncology	G	2½
The purpose of this course is to provide information about surgical oncology, radiation oncology, and the most recent surgical options to treat cancer. Laboratories will be provided to apply surgical techniques for maxillectomy/mandibulectomy.				Physiology and pathophysiology of the hemic lymphatic system in large animals. Additionally, diagnosis and management of selected neoplastic conditions will be discussed.			
Repeatable to a maximum of 2 cr hrs.				Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.07.			
8833.03	Advanced Veterinary Surgery: Respiratory and Thoracic Surgery	G	2	8844.06	Advanced Large Animal Internal Medicine: Musculoskeletal Diseases	G	1
Fundamental respiratory pathophysiology, diagnostic techniques for respiratory disease, and respiratory and thoracic surgery methodology in comparative veterinary surgical sciences.				Physiology, pathophysiology and diseases of the musculoskeletal system in large animals.			
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 833.03.				Prereq: DVM or equiv; or permission of instructor.			
8833.04	Advanced Veterinary Surgery: Surgical Neurology	G	2	8844.08	Advanced Large Animal Internal Medicine: Hepatology	G	½
Fundamentals of neurologic exam and lesion localization; neuro-ophthalmology, hearing disorders, neurodiagnostic techniques, neuroanesthesia. Pathophysiology of vertebral column trauma; surgical techniques; peripheral nerve injury and rehabilitation.				Unique aspects of the physiology and pathophysiology of the liver in large animal species.			
Prereq: DVM or equiv; or permission of instructor.				Prereq: DVM or equiv; or permission of instructor.			
8833.05	Advanced Surgical Sciences: Gastroenterology	G	2	8844.09	Advanced Large Animal Internal Medicine: Principles of Fluid and Electrolyte Balance	G	½
The purpose of this course is to provide information about the pathophysiology, anatomy, diagnosis and treatment of medical and surgical disorders of the gastrointestinal tract.				Principles of fluid and electrolyte balance and the pathophysiology and management of disorders of sodium, potassium and chloride balance in large animal species.			
Prereq: DVM or equiv., or permission of instructor.				Prereq: DVM or equiv; or permission of instructor.			
8833.06	Advanced Veterinary Surgery: Renal, Urologic and Reproductive Surgery	G	2	8844.10	Advanced Large Animal Internal Medicine: Respiratory Diseases	G	2½
Principles and comparative aspects of renal, urologic, and reproductive tract surgery in domestic animals; physiology, pathology, diagnosis and management of diseases of the urogenital tract in domestic animals.				Comprehensive review of selected topics in respiratory physiology and medical diseases of the respiratory tract of horses, ruminants, and camelids.			
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 833.06.				Prereq: DVM or equiv; or permission of instructor.			
8833.07	Advanced Veterinary Surgery: Musculoskeletal Surgery	G	1	8844.12	Advanced Large Animal Internal Medicine: Toxicology	G	1
Fundamental concepts, principles, and procedures of musculoskeletal surgery in domestic animals.				Review and update on toxic agents in large animals.			
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 833.07.				Prereq: DVM or equiv; or permission of instructor.			
8833.08	Advanced Veterinary Surgery: Wound and Reconstruction	G	1	8844.13	Large Animal Internal Medicine Seminars: Neonatology	G	1
The purpose of this course is to provide information about the physiology, anatomy, and healing principles of skin. The principles of wound reconstruction with open wound management, flaps, and grafts to be discussed. Laboratories will be provided.				Focuses on conditions affecting neonates of large animal species covering pathophysiology, clinical medicine, treatment, and prognosis. Emphasis will be on current knowledge and recent comparative literature.			
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 833.09.				Prereq: This course is for DVMs in residency/graduate programs or by petition of the team leader.			
8833.10	Advanced Veterinary Ocular Microsurgical Techniques I	G	2	8844.14	Advanced Large Animal Internal Medicine: Special Topics	G	1
Cover microsurgical instrumentation, surgical microscopes, care of microsurgical equipment, microsurgical principles and techniques pertaining to the eye. This will include advanced blepharoplasty, corneal and intraocular surgery.				The purpose of this course is to present and discuss the most recent literature / topics (clinical, research) in large animal internal medicine that are not covered in other courses, but that are relevant to residents and grad students.			
Prereq: Veterinary Ophthalmology Resident, or permission of instructor.				Prereq: DVMs in residency/Grad programs, or by petition of team leader. Repeatable to a maximum of 2 cr hrs.			
8833.11	Advanced Veterinary Ocular Microsurgical Techniques II	G	2	8855.01	Advanced Veterinary Surgery: Large Animal Urogenital	G	2
Covers microsurgical instrumentation, surgical microscopes, care of microsurgical equipment, microsurgical principles and techniques pertaining to the eye. Will include advanced blepharoplasty, corneal and intraocular surgery.				Students will review urinary physiology and pathophysiology, and will be introduced to the principles of urogenital surgery. Specific large animal urinary and genital conditions and surgical approaches will be covered.			
Prereq: VetClin 8833.10, and Veterinary Ophthalmology Resident; or permission of instructor.				8855.02	Advanced Veterinary Surgery: Gastrointestinal Surgery	G	2
8844.01	Advanced Large Animal Internal Medicine: Clinical Pharmacology	G	1½		Covers advanced large animal surgical techniques of the gastrointestinal tract. Current literature will be reviewed and pathophysiology and medical case management will also be included in the lecture series.		
Clinical pharmacology of drugs commonly used in large animal medicine such as antibiotics, corticosteroids, and non-steroidal anti-inflammatories.				8855.04	Large Animal Neurosurgery	G	3
Prereq: DVM or equiv; or permission of instructor.				Presentation of pathophysiology, diagnosis, and surgical treatment for injury to the nervous system with a focus on large animals			
8871	Small Animal Abdominal Ultrasound	G	1	8872	Advanced Equine Sport Horse Surgery	G	1
Basics of ultrasound physics and a review of the normal and abnormal sonographic appearance of abdominal structures in small animals. Introduction to Doppler imaging, contrast ultrasound, and ultrasound-guided aspirates.				Systematic exposure of the advanced surgery trainee to the "art and science" of arthroscopy, specifically equine arthroscopy, using current textbooks as the guide for complete coverage of equine arthroscopy.			
Prereq: DVM or equiv; or permission of instructor.							

8893.01 Case Conference: Orthopedic Surgery	G	1	8895.01 Advanced Topics in Veterinary Cardiology	G	1
Offers surgery residents the opportunity to discuss small animal orthopedic/ neurosurgical cases and review relevant literature in a critical manner. Topics will be prepared for interactive discussion between residents and surgery faculty. Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			Advanced topics in cardiology focusing on resident-graduate students training in veterinary cardiology. Eight topics are covered over eight repetitions of the course including cardiomyopathy, pulmonary hypertension, heart failure, systolic function and dysfunction, diastolic function and dysfunction, degenerative valve disease, endocarditis, pericardial disease, and thrombosis and thromboembolism. Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 8 cr hrs.		
8893.02 Clinicopathologic Conference: Canine and Feline Medicine	G	1	8895.02 Advanced Topics in Veterinary Clinical and Comparative Oncology	G	1
Case conference emphasizing advanced aspects of canine and feline medicine. Emphasis is placed on interpretation of clinical, imaging, laboratory and pathologic data. Prereq: DVM or equiv, or permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			Critical review of literature on topics related to veterinary clinical and comparative (animal and human) oncology and neoplastic pathology review. Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 6 cr hrs.		
8893.03 Case Conference: Soft Tissue Surgery	G	1	8895.03 Advanced Topics in Veterinary Dermatology and Otology	G	1
Offers surgery residents the opportunity to discuss small animal soft tissue cases and review relevant literature in a critical manner. Topics will be prepared for interactive discussion between residents and surgery faculty. Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 850.09. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.			Small group discussion and critical review of current topics in veterinary medicine from selected journals and textbooks. Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.		
8894.01 Advanced Comparative Clinical Ophthalmology I	G	1	8895.04 Advanced Topics in comparative Diagnostic Imaging	G	1
Familiarizes the student with comparative ophthalmology. Case material will be used to enhance student knowledge of diseases and treatment of the anterior and posterior segment and ocular adnexa. Prereq: DVM or equiv; or permission of instructor.			Familiarize radiology residents and graduate students with comparative diagnostic imaging by critical review of the biomedical literature. Emphasis on evaluation of study design, methodology, and data interpretation. Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.		
8894.02 Advanced Comparative Clinical Ophthalmology II	G	1	8895.05 Advanced Veterinary Endoscopy	G	1
Familiarizes the student with comparative ophthalmology. Case material will be used to enhance student knowledge of diseases and treatment of the anterior and posterior segment and ocular adnexa. Prereq: DVM or equiv; or permission of instructor.			The student will be able to critically understand the standard procedures performed in small animal internal medicine with respect to techniques, required equipment, procedural decision-making, associated risks, and endoscopic interpretation.		
8894.03 Advanced Comparative Clinical Ophthalmology III	G	1	8895.07 Advanced Topics in Veterinary Neurology	G	1
Familiarize the student with comparative ophthalmology. Case material will be used to enhance student knowledge of diseases and treatment of the anterior and posterior segment and ocular adnexa. Prereq: DVM or equiv; or permission of instructor.			A small-group course based on the discussion of the current literature and review of topics of neuroimaging and neuropathology with clinical correlations. Prereq: DVM or equiv, or permission of instructor. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.		
8894.04 Case Conference: Radiology	G	1	8895.08 Advanced Topics in Comparative Anesthesiology	G	1
Veterinary diagnostic imaging graduate students are presented case material and are graded on their ability to detect imaging abnormalities, create a list of differential diagnoses, achieve an imaging diagnosis and advise the next step for the case. Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 807.			Critical review of current literature related to anesthesiology with a focus on research design, methodology, and interpretation. Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.		
8894.05 Radiology Known Case Conference Introductory II	G	2	8895.12 Advanced Comparative Ophthalmology	G	1
Teach and train radiology graduate students the correct approach to diagnostic image interpretation during their 3 year program. Radiology graduate students are expected to formulate a ranked list of differential diagnoses and discuss other diagnostic modalities that may aid in further determining a diagnosis. Discussion of pathophysiology will be included. Prereq: 8894.04, and Veterinary Diagnostic Imaging Residency.			Familiarize the student with comparative ophthalmology by critical review and evaluation of the current and past biomedical literature with emphasis on study design, methodology, and data interpretation. Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.		
8894.06 Radiology Known Case Conference Intermediate I	G	1	8895.13 Journal Review in Comparative Emergency and Critical Care	G	1
Teach and train radiology graduate students the correct approach to diagnostic image interpretation during their three year program. Radiology graduate students are expected to formulate a ranked list of differential diagnoses and discuss other diagnostic modalities that may aid in further determining a diagnosis. Discussion of pathophysiology will be included. Prereq: 8894.04 and 8894.05, and Veterinary Diagnostic Imaging Residency.			Familiarize the student with comparative Emergency and Critical Care. The current and past primary literature from selected peer-reviewed journals will be critically reviewed with regards to study design, methodology and data interpretation. Prereq: DVMs in residency/graduate programs, or by petition of the team leader. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
8894.07 Radiology Known Case Conference Intermediate II	G	2	8895.14 Comparative Small Animal Internal Medicine	G	1
Teach and train radiology graduate students the correct approach to diagnostic image interpretation during their three year program. Radiology graduate students are expected to formulate a ranked list of differential diagnoses and discuss other diagnostic modalities that may aid in further determining a diagnosis. Discussion of pathophysiology will be included. Prereq: 8894.04, 8894.05, and 8894.06, and Veterinary Diagnostic Imaging Residency.			Critical review of the veterinary & human biomedical literature in internal medicine with respect to study design, methodology, and data interpretation and discussion of clinical implications of results. Prereq: DVMs in residency/Grad programs, or by petition of team leaders.		
8894.08 Radiology Known Case Conference Advanced I	G	1	8895.15 Comparative Small Animal Internal Medicine	G	1
Teach and train radiology graduate students the correct approach to diagnostic image interpretation during their three year program. Radiology graduate students are expected to formulate a ranked list of differential diagnoses and discuss other diagnostic modalities that may aid in further determining a diagnosis. Discussion of pathophysiology will be included. Prereq: 8894.04, 8894.05, 8894.06, and 8894.07, and Veterinary Diagnostic Imaging residency.			Critical review of the veterinary & human biomedical literature in internal medicine with respect to study design, methodology, and data interpretation and discussion of clinical implications of results. Prereq: DVMs in residency/Grad programs, or by petition of team leaders. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		
8894.09 Radiology Known Case Conference Advanced II	G	2	8896.03 Advanced Topics in Veterinary Dermatology and Otology	G	1
Teach and train radiology graduate students the correct approach to diagnostic image interpretation during their three year program. Radiology graduate students are expected to formulate a ranked list of differential diagnoses and discuss other diagnostic modalities that may aid in further determining a diagnosis. Discussion of pathophysiology will be included. Prereq: 8894.04, 8894.05, 8894.06, 8894.07, and 8894.08, and Veterinary Diagnostic Imaging Residency.			Small group discussion and critical review of current topics in veterinary medicine from selected journals and textbooks. Prereq: DVM or equivalent, or permission of instructor.		
8894.10 Radiology Known Case Conference Advanced III	G	2	8896.04 Dermatopathology I	G	1
Teach and train radiology graduate students the correct approach to diagnostic image interpretation during their three year program. Radiology graduate students are expected to formulate a ranked list of differential diagnoses and discuss other diagnostic modalities that may aid in further determining a diagnosis. Discussion of pathophysiology will be included. Prereq: DVM or equivalent, or permission of instructor.			Familiarize the student with both normal microscopic anatomy of the skin and dermatopathology of exotic, large and small animals. Prereq: DVM or equivalent, or permission of instructor.		

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8896.05 Dermatopathology II	G	1	8896.20 Book Club in Comparative Emergency and Critical Care	G	1					
Familiarizes students with interpretation of dermatopathology by pattern analysis. Recognition of subtle changes, cellular infiltrates and infectious organisms will be emphasized to allow development of differential diagnoses.										
Prereq: DVM or equivalent, or permission of instructor.										
8896.06 Dermatopathology III	G	1	8896.21 Book Club in Comparative Emergency and Critical Care	G	1					
Builds on recognition of subtle changes, cellular infiltrates and presence of infectious organisms and include pattern recognition to differentiate non-neoplastic, benign and malignant neoplasms of mammalian species.										
Prereq: DVM or equivalent, or permission of instructor.										
8896.08 Advanced Topics in Comparative Anesthesiology	G	1	8896.22 Book Club in Comparative Emergency and Critical Care	G	1					
Critical review of the current literature related to veterinary anesthesiology with a focus on study design, methodology and interpretation.										
Prereq: DVM or equivalent, or permission of the instructor.										
8896.09 Comparative Ocular Histology I	G	1	8896.23 Book Club in Comparative Emergency and Critical Care	G	1					
Familiarizes the student with comparative ocular histology and ocular histopathology. Illustrative histopathologic case material will be used to facilitate discussion of disease processes.										
Prereq: DVM or equivalent, or permission of instructor.										
8896.10 Comparative Ocular Histology II	G	1	8896.24 Advanced Topics in Anesthesiology: Anesthesia Equipment	G	1					
Familiarizes the student with comparative ocular histology and ocular histopathology. Illustrative histopathologic case material will be used to facilitate discussion of diseases processes.										
Prereq: DVM or equivalent, or permission of instructor.										
8896.11 Comparative Ocular Histology III	G	1	8896.25 Advanced Topics in Anesthesiology: Respiratory Physiology	G	1					
Familiarizes the student with comparative ocular histology and ocular histopathology. Illustrative histopathologic case material will be used to facilitate discussion of diseases processes.										
Prereq: DVM or equivalent, or permission of instructor.										
8896.12 Advanced Comparative Ophthalmology	G	1	8896.26 Advanced Topics in Anesthesiology: Cardiovascular Physiology and Pharmacology for Anesthesia	G	1					
Familiarizes the student with comparative ophthalmology by critical review and evaluation of the current and past biomedical literature with emphasis on study design, methodology, and data interpretation.										
Prereq: DVM or equivalent, or permission on instructor.										
8896.13 Advanced Comparative Anesthesiology: Classic Literature Review	G	1	8896.27 Large Animal Surgery Current Literature	G	1					
A small group course based on discussion of the classic anesthesia literature with a focus on study design, methodology, and interpretation. Course format involves discussion of selected historical papers from journals pertaining to anesthesia.										
8896.14 Advanced Farm Animal Surgery	G	2	This course will be presented in journal club style, with participants presenting current literature related to equine and farm animal surgery.							
An in depth study of special topics including the surgical conditions and surgical treatments of cattle, small ruminants, and pigs.			Repeatable to a maximum of 3 cr hrs.							
Prereq: Resident/grad students in large animal, or permission of team leader.						8999 Research in Veterinary Clinical Sciences	G	1 - 15		
8896.15 Advanced Topics in Anesthesiology: Respiratory Pathophysiology	G	1	Research for dissertation purposes only.							
A small group course based on discussion of respiratory pathophysiology as it pertains to anesthetic practice. Course format involves review and presentation of information from "Pulmonary Pathophysiology" by West, other textbooks and journals.			Repeatable. This course is graded S/U.							
Prereq: Resident in Veterinary Anesthesiology, or permission of team leader.						Veterinary Medicine				
8896.16 Advanced Topics in Anesthesiology: Anesthetic Uptake and Action	G	1	6510 Veterinary Preventive Medicine 1: Introduction to Epidemiology and Population Systems	V	3					
A small group course based on discussion of mechanism of action of inhaled anesthetics, uptake, solubility, and metabolism. Course format involves review and presentation of information from "Anesthetic Uptake and Action" by Eger and other sources.			Descriptive and analytical epidemiology, including design, analysis, and interpretation of results; host, agent, and environmental factors in disease causation.							
Prereq: Grad standing. This course is designed for residents in Veterinary Anesthesiology but others may be considered upon petition to the team leader.			Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 510.							
8896.17 Journal Review in Comparative Emergency and Critical Care	G	1	6520 Gross Anatomy 1	V	4					
Familiarize the student with comparative Emergency and Critical Care. The current and past primary literature from selected peer-reviewed journals will be critically reviewed with regards to study design, methodology and data interpretation.			Body and its components as forms, relationships, and mechanical functioning.							
Prereq: DVMs in residency/graduate programs, or by petition of the team leader.			Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 520.							
8896.18 Book Club in Comparative Emergency and Critical Care	G	1	6521 Gross Anatomy 2	V	5					
Covers the principles and practice of applied renal physiology as relevant to residents in the Emergency and Critical Care residency program.			Study of the structure and function of body systems of domesticated herbivores using the equine species as a model for dissection. Common anatomic features and species specific differences of the various systems are highlighted.							
Prereq: DVMs in residency/graduate programs, or by petition of the team leader.			Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 521 or 522.							
8896.19 Book Club in Comparative Emergency and Critical Care	G	1	6525 Introduction to Veterinary Diagnostic Radiology	V	1					
Covers basic and applied physiology of coagulation/coagulation disorders. It will also cover applied systems physiology (GI, reproductive, neurologic, ophthalmologic) and nutrition as relevant to Critical Care Medicine.			Radiation physics and safety; basic principles of image interpretation; normal radiographic anatomy of small and large animals.							
Prereq: DVMs in residency/graduate programs, or by petition of the team leader.			Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 525 or 526.							

6530 Comparative Structure and Function of Tissues V 3

Correlated study of the development, microscopic structure, and ultrastructural morphology of tissues.

Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 530 or 531.

6540 Structure and Function of Cells V 2

Introduction to structure and function at cellular level including physiological principles of homeostasis, energetics, metabolism, enzymes, nutrition, and growth.

Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 540.

6550.01 Comparative Biology of Disease 1: General Pathology and Immunology V 3

An interdisciplinary study of the interactions between disease producing agents, body systems, tissues, cells, subcellular units, and selected drugs and toxins.

Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 550.01.

6550.02 Comparative Biology of Disease 2: Animal Pathogens V 3

An interdisciplinary study of the interactions between disease producing agents, body systems, tissues, cells, subcellular units, and selected drugs and toxins.

Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 550.02.

6561 Principles of Veterinary Pharmacology V 2

Basic principles of pharmacology, pharmacodynamics, pharmacokinetics, and therapeutics. Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 561.

6565 Introduction to Animal Welfare V 1

Historical, philosophical and scientific developments that have led to our current understanding of animal welfare and how it should be assessed. Welfare issues related to the different uses of animals in society.

Prereq: 2nd yr standing in Veterinary Medicine program.

6570.01 Introduction to Clinical Veterinary Medicine V 1

Introduction to the basic concepts and skills required to practice clinical veterinary medicine, including the approach to a veterinary case, and some basic psychomotor, surgical and cognitive skills required by clinicians.

Prereq: 1st yr standing in Veterinary Medicine program. This course is graded S/U.

6570.02 Clinical Veterinary Medicine Experience V 1

Experiential learning course allowing students to be immersed in various clinical settings to observe and participate in the clinical management of cases, as well as to explore alternative careers in the veterinary profession.

Prereq: 2nd yr standing in Veterinary Medicine program. This course is graded S/U.

6570.03 Clinical Reasoning and Decision-Making V 2

Serves as a capstone experience to provide students with the opportunity to integrate the clinical veterinary skills and knowledge required to "think and behave like a clinician" in preparation for their clinical year.

Prereq: 3rd yr standing in Veterinary Medicine program.

6600 Cardiovascular System V 3

A comparative study of the structure, function, and dysfunction of the cardiovascular system including arrhythmias, abnormal flow, congenital disease, etiologic agents, diagnostic methods, and therapeutic approaches.

Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 600.

6601 Respiratory System V 3

A comparative study of the structure, function, and dysfunction of the respiratory system including reaction to injury, ventilation defects, pneumonias, neoplastic disease, radiological diagnosis, and therapeutic approaches.

Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 601.

6602 Urinary System V 3

A comparative study of the structure, function, and dysfunction of the urinary system including diseases of the kidney, bladder, and urethra, and their diagnosis and treatment.

Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 602.

6603 Nervous System V 4

Comparative study of the structure, function and dysfunction of the nervous system including functional anatomy, pathology, and clinical evaluation of the brain and spinal cord.

Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 603.

6604 Endocrine System V 3

A comparative study of the anatomy, physiology, and pathology of the major endocrine systems and an introduction to diagnosis and treatment of endocrine disorders.

Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 604.

6605 Reproductive System V 3

A comparative study of the structure, function, and dysfunction of the reproductive system including etiologic, pathogenic, pathophysiological, therapeutic, and preventive aspects of reproductive diseases.

Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 605.

6606 Integumentary System V 3

Study of the structure and function of the skin and ears as a basis for studying diseases of these organs. A problem-based approach to recognition, diagnosis and treatment of skin and ear diseases of domestic animals.

Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 606.

6607 Musculo-skeletal System V 3

A comparative study of the structure, function, and dysfunction of the musculoskeletal system including congenital and acquired diseases, their radiographic diagnosis, treatment, and prevention.

Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 607.

6609 Digestive System V 4

A comprehensive study of the gastrointestinal system of domestic animals.

Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 609.

6610.01 Clinical Veterinary Parasitology V 1

Clinical aspects of parasitic infections of cats, dogs, horses, cattle and small ruminants, including symptoms diagnosis treatments, control measures and zoonotic concerns.

Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 610.

6610.02 Applied Clinical Veterinary Parasitology V 1

Laboratory methods used in the diagnosis of parasitic infections in small and large animals.

Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 616.

6611 Veterinary Preventive Medicine III: Emerging Diseases and Public Veterinary Practice V 3

An introduction to veterinary accreditation, selected foreign and emerging animal diseases which could pose a threat to the US agriculture and the regulatory framework governing food safety.

Prereq: Third year standing in VMColl. Not open to students with credit for 611.

6612 Introduction to Comparative Veterinary Ophthalmology V 2

Comparative anatomy, histology and physiology of the normal and abnormal eye and adnexa of domestic animals.

Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 612.

6614.01 Professional Development I-A V 1

Introduction to the profession, ethics, and a variety of communication and self management information and skills necessary to be successful in veterinary school, the veterinary profession and in life.

Prereq: First year standing in VMColl. Not open to students with credit for 560.01, 560.02, or 614.01. This course is graded S/U.

6614.02 Professional Development I-B V 1

Provides students with an introduction to leadership and builds on the foundations of ethics principles. Additional information on communication and self management is provided.

Prereq: First year standing in VMColl. Not open to students with credit for 614.02. This course is graded S/U.

6614.03 Professional Development II-A V 1

Introduction to social awareness and relationship management, continued discussion of leadership development and application of ethics to build on the foundations of ethics principles.

Prereq: Second year standing in VMColl. Not open to students with credit for 614.03.

6614.04 Professional Development II-B V 1

Advanced learning in social awareness, relationship management, leadership development and application of ethics to build on the foundation of ethics principles.

Prereq: Second year standing in VMColl. Not open to students with credit for 614.04.

6614.05 Professional Development III-A V 1

Career planning including establishing employment goals, preparing a budget and managing student debt. Resume development, interviewing strategies, evaluating employment offers, negotiation skills and understanding employment contracts.

Prereq: 3rd yr standing in VMColl. Not open to students with credit for 614.05

6614.06 Professional Development III-B V 2

Continued application of ethical decision making, expression of views through case discussions and writing assignments. Foundation in laws regulating the practice of veterinary medicine and regulating animals in society.

Prereq: 3rd yr standing in VMColl. Not open to students with credit for 614.06.

438 Veterinary Medicine

6618 Clinical Pathology	V	4	7700.02 Applied Veterinary Medicine: Shelter Medicine and Surgery	V	2
Introduction to current concepts of clinical pathology (hematology, hemostasis, clinical chemistry, urinalysis, and cytology) and quality assurance.			Clinical experience with shelter dogs and cats at the Capital Area Humane Society including anesthesia and general surgery, health and behavior screening, and infectious disease surveillance and prevention.		
Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 618.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.17. Repeatable to a maximum of 12 cr hrs.		
6641 Introduction to Animal Behavior	V	2	7700.03 Applied Veterinary Medicine: Small Animal Internal Medicine	V	2
Basic concepts and applications of animal behavior with implications for welfare. Emphasis on domesticated animals, with some coverage of laboratory and wild animals in captivity.			Patient diagnosis and management in the small animal internal medicine service, including patient care responsibility, client communication, and interactions with all members of the patient care team.		
Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 641.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.02. Repeatable to a maximum of 12 cr hrs.		
6646 Veterinary Preventive Medicine II: Zoonotic Diseases	V	2	7700.04 Applied Veterinary Medicine: Small Animal Surgery - Soft Tissue	V	2
Recognition of zoonotic diseases in the US, host species, methods of transmission, risk factors for exposure, measures for control, prevention, and eradication.			Clinical experience in the management of surgical diseases of small animal patients. Students will be responsible for the preoperative, operative, and postoperative treatment for animals presented to the small animal surgery soft tissue service.		
Prereq: Second year standing in VMColl. Not open to students with credit for 646.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.03. Repeatable to a maximum of 12 cr hrs.		
7190.01 Applied Veterinary Medicine Experience	V	2 - 16	7700.05 Applied Veterinary Medicine: Small Animal Surgery - Orthopedics	V	2
Field or laboratory study in the various areas of veterinary medicine through an approved experience with qualified professionals.			Clinical experience in the surgical management of orthopedic diseases of small animals. Students will be responsible for the preoperative, operative, and postoperative treatment for animals presented to the small animal surgery orthopedics service.		
Prereq: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 22 cr hrs or 11 completions. This course is graded S/U.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.03. Repeatable to a maximum of 12 cr hrs.		
7190.02 Applied Veterinary Medicine Experience	V	2 - 16	7700.06 Applied Veterinary Medicine: Farm Animal Medicine and Surgery	V	2
Field or laboratory study in the various areas of veterinary medicine through an approved experience with qualified professionals.			Diagnosis, management, and prevention of medical and surgical diseases of farm animals.		
Prereq: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 22 cr hrs or 11 completions.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.04. Repeatable to a maximum of 12 cr hrs.		
7526 Veterinary Diagnostic Imaging	V	3	7700.07 Applied Veterinary Medicine: Large Animal Ambulatory Services	V	2
The detection, description, differential diagnosis, and case management of radiographic abnormalities.			Provides students with experience working in a large animal clinic, including patient care and business management aspects. Provides instruction in production medicine and its role in modern agriculture.		
Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 616.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.10. Repeatable to a maximum of 12 cr hrs.		
7562 Introduction to Veterinary Anesthesiology	V	2	7700.08 Applied Veterinary Medicine: Equine Medicine	V	2
Introduction to veterinary anesthesia.			Application of the principles of diagnosis, treatment, and prevention of medical diseases of horses.		
Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 562.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.05. Repeatable to a maximum of 12 cr hrs.		
7563 Introduction to Surgery	V	2	7700.09 Applied Veterinary Medicine: Equine Surgery	V	2
Introduction to surgery.			Application of the principles of diagnosis, treatment, and prevention of surgical diseases of horses.		
Prereq: Third year standing in VMColl. Not open to students with credit for 563.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.05. Repeatable to a maximum of 12 cr hrs.		
7564 Clinical Microbiology and Pharmacology of Antimicrobial Agents	V	1	7700.10 Applied Veterinary Medicine: Equine Field Service	V	2
Detection and differential diagnoses of bacterial and fungal disease in domestic species and clinical pharmacology of antimicrobial and antifungal agents used in veterinary medicine.			Application of the principles of diagnosis, treatment, and prevention of diseases of horses.		
Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 564.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.06. Repeatable to a maximum of 12 cr hrs.		
7613 Veterinary Emergency and Critical Care Medicine	V	2	7700.11 Applied Veterinary Medicine: Equine Emergency and Critical Care Medicine	V	2
Principles and applications of fluid therapy and emergency and critical care medicine in small and large animals.			Provides students supervised experience in hospital-based emergency and critical care experience with horses.		
Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 613.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.16. Repeatable to a maximum of 12 cr hrs.		
7615.01 Small Animal Operative Practice	V	4	7700.12 Applied Veterinary Medicine: Radiology	V	2
Clinical instruction in and application of surgical techniques and treatment of small animal diseases.			Students participate in all aspects of diagnostic radiology and become proficient in obtaining diagnostic radiographs, develop basic film reading skills, and understand radiology's role in clinical decision making and case management.		
Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 615.01.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.07. Repeatable to a maximum of 12 cr hrs.		
7615.02 Small Animal Medicine Diagnostic Techniques and Procedures	V	1	7700.13 Applied Veterinary Medicine: Clinical Anesthesiology	V	2
Clinical instruction in and application of medical diagnostic and therapeutic techniques in small animals.			Supervised experience in hospital anesthesia practice. Students assess large and small animals for anesthesia, select proper anesthesia protocols, learn proper use of anesthetic equipment, and induce, maintain, monitor, and recover patients.		
Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 615.02.			Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.09. Repeatable to a maximum of 12 cr hrs.		
7616 Farm Animal Medicine Diagnostic Techniques, and Procedures	V	1			
Instruction and self-study in minor techniques for large animals.					
Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 616.					
7617 Equine Medicine Diagnostic Techniques, and Procedures	V	1			
Laboratory and self-instruction in equine techniques.					
Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 617.					
7700.01 Applied Veterinary Medicine: Community Practice	V	2			
Clinical skills taught by physical exam, diagnosis and treatment of client-owned animals. Disease prevention and client education are emphasized including nutrition, vaccinations, parasite control, dentistry, animal behavior, and screening tests.					
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.01. Repeatable to a maximum of 12 cr hrs.					

7700.14 Applied Veterinary Medicine: Applied Pathology	V	2
Students will perform necropsies of major domestic species. They will learn to recognize and describe common gross pathologic lesions and become familiar with the role of histopathology in assessment of necropsy material.		
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.14. Repeatable to a maximum of 12 cr hrs.		
7700.15 Applied Veterinary Medicine: Small Animal Critical Care		
Evaluation, monitoring and management of small animal patients in the intensive care unit and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum.		
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.11. Repeatable to a maximum of 12 cr hrs.		
7700.16 Applied Veterinary Medicine: Small Animal Emergency		
Evaluation and management of small animal patients presented to the emergency service and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum.		
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.11. Repeatable to a maximum of 12 cr hrs.		
7700.17 Applied Veterinary Medicine: Ophthalmology		
Application of principles of diagnosis and treatment of diseases of the eye to animal patients, including dogs, cats, horses, and farm animals.		
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.12. Repeatable to a maximum of 12 cr hrs.		
7700.18 Applied Veterinary Medicine: Dermatology		
Patient diagnosis and management in the dermatology service, including patient care, client communication, and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum.		
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.15. Repeatable to a maximum of 12 cr hrs.		
7700.19 Applied Veterinary Medicine: Cardiology		
Clinical instruction in diagnosis, treatment and prevention of cardiovascular diseases of animals, including patient care, client communication, and interactions with all members of the patient care team.		
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.19. Repeatable to a maximum of 12 cr hrs.		
7700.20 Applied Veterinary Medicine: Small Animal Neurology		
Patient diagnosis and management in the neurology service, including patient care responsibility, client communication, and interactions with all members of the patient care team.		
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.20. Repeatable to a maximum of 12 cr hrs.		
7700.21 Applied Veterinary Medicine: Small Animal Oncology		
Patient diagnosis and management in the oncology service, including patient care, cytology and imaging interpretation, client communication, and interactions with all members of the patient care team.		
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.22. Repeatable to a maximum of 12 cr hrs.		
7700.22 Applied Veterinary Medicine: Theriogenology		
Clinical experience with diagnosis and treatment of reproductive disorders of dogs, cats, cattle and horses, including assisted reproductive procedures.		
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs.		
7700.24 Applied Veterinary Medicine: Preventive Medicine		
Clinical experience in population-based medicine, including visits to farms, humane societies, and animal laboratory facilities. Students will learn to recognize, analyze, and manage diseases affecting populations by applying epidemiologic principles.		
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.08. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		
7700.25 Applied Veterinary Medicine: Advanced Preventive Medicine		
Clinical experience in population-based medicine, including visits to farms, humane societies, and animal laboratory facilities. Students will learn to recognize, analyze, and manage diseases affecting populations by applying epidemiologic principles.		
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		
7700.26 Veterinary Surgical Oncology		
Senior veterinary students will learn and understand a comprehensive approach to cancer management in small animals. They will learn the principles of surgical oncology, postoperative management, and follow-up care.		
Prereq: 4th year standing in Veterinary Medicine. Repeatable to a maximum of 10 cr hrs.		

7720.01 Applied Veterinary Medicine: Community Practice Clerkship	V	2
Clinical skills taught by physical exam, diagnosis and treatment of client-owned animals in a private practice setting by participating practicing veterinarians. Disease prevention and client education are emphasized including nutrition, vaccinations, parasite control, dentistry, animal behavior, and screening tests.		
Prereq: Fourth year standing in Veterinary Medicine professional degree program. Repeatable to a maximum of 12 cr hrs.		
7720.02 Equine Clinical Clerkship	V	2

The purpose of this course is to provide students with primary care experience to develop clinical skills taught by physical exam, diagnosis and treatment of client-owned animals. Disease prevention and client education are emphasized including wellness exams, vaccinations, parasite control, dentistry, lameness, and emergency care.

Prereq: Fourth year standing in Veterinary Medicine professional degree program. Repeatable to a maximum of 12 cr hrs.

7720.03 Farm Animal Practice Clerkship	V	2
The purpose of this course is to provide students with primary care experience to develop clinical skills taught by physical exam, diagnosis and treatment of client-owned animals. Disease prevention and client education are emphasized including wellness exams, vaccinations, parasite control, herd health, milk quality, nutrition, and lameness.		
Prereq: Fourth year standing in Veterinary Medicine professional degree program. Repeatable to a maximum of 12 cr hrs.		

Veterinary Preventive Medicine

7193.01 Individual Studies in Veterinary Preventive Medicine	G V	1 - 8
Laboratory and library investigations of animal disease problems involving veterinary preventive medicine. Covers the research experiences for Masters students and Doctoral Students prior to candidacy.		
Repeatable to a maximum of 60 cr hrs or 60 completions. This course is graded S/U.		
7193.02 Independent Study in Veterinary Preventive Medicine	G V	1 - 2
Laboratory and library investigations of disease problems involving veterinary preventive medicine. The faculty and student agree on a course project suitable for a letter grade.		
Prereq: Grad or Prof standing in Veterinary Medicine program, and permission of instructor. Repeatable to a maximum of 5 cr hrs.		
7194.01 Group Studies in Veterinary Preventive Medicine	G V	1
Group studies course in topic areas of veterinary preventive medicine.		
Prereq: DVM or equiv, or Grad standing, or Veterinary Medicine program standing. This course is graded S/U.		
7194.02 Group Studies in Veterinary Preventive Medicine	G V	3
Group studies course in topic areas of veterinary preventive medicine.		
Prereq: Grad standing, or Veterinary Medicine program standing, or DMV, or equiv. Repeatable to a maximum of 15 cr hrs.		
7612 Nutrition of Food Animals and Equine	V	3
Nutritional diseases and feeding practices for food-producing animals and equine.		
Prereq: First-year, second semester, or second-year standing in veterinary medicine program.		
7710 Ecosystem Health Conservation Medicine	G V	3
Principles and application of ecosystem health and conservation medicine will be examined using the One Health One Medicine paradigm. This course may also serve as a component of a non-degree certificate for external veterinarians interested in gaining training in ecosystem health, conservation medicine and/or One Health.		
Prereq: CPHR of 2.50 or above; and Grad standing or, 2nd, or 3rd yr standing in Veterinary Medicine program.		
7710.25 Applied Veterinary Medicine: Advanced Preventive Medicine	V	2
Clinical experience in population-based medicine, including visits to farms, humane societies, and animal laboratory facilities. The student will learn to recognize, analyze, and manage disease conditions affecting populations.		
Prereq: Fourth-year standing in Veterinary Medicine Program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		
7710.54 Applied Veterinary Medicine: Laboratory Animal Medicine	V	2
This course is designed to introduce fourth year veterinary students to all facets of laboratory animal medicine and its various disciplines (research, management, clinical medicine, diagnostics, husbandry, surgery and pathology).		
Prereq: Fourth-year standing in Veterinary Medicine Program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.		
7710.55 Applied Veterinary Medicine: Beef and Dairy Production Medicine	V	2
Students will accompany veterinarians as they provide routine preventive and clinical services to dairy and beef cattle. Dairy and production medicine topics will be covered. Students are expected to participate in the treatment of patients.		
Prereq: 4th yr standing in the Veterinary Medicine Program. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		

7710.55 Applied Veterinary Medicine: Beef and Dairy Production Medicine	V	2
Students will accompany veterinarians as they provide routine preventive and clinical services to dairy and beef cattle. Dairy and production medicine topics will be covered. Students are expected to participate in the treatment of patients.		
Prereq: 4th yr standing in the Veterinary Medicine Program. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.		

440 Veterinary Preventive Medicine

7710.56 Applied Veterinary Medicine: Capstone Rotation in Dairy Production Medicine V 2

A two-week capstone clinical rotation in dairy veterinary production medicine. One week is devoted to acquiring, assimilating, and solidifying the principles of dairy production medicine through limited didactic instruction and visits to dairy farms. One week is devoted to acquiring the fundamentals of reproductive ultrasound through didactic instruction and extensive practice.

Prereq: 4th yr standing in the Veterinary Medicine Program. This course is graded S/U.

7711 Introduction to Shelter Medicine V 1

An introduction to shelter medicine. Material in the class will focus primarily on basic herd health principles and basic operations within a shelter environment.

7720 Laboratory Animal Medicine G V 2

Familiarizes students with regulatory and compliance issues, management of animal facilities, the scientific basics of laboratory animal medicine, and the design and performance of animal experiments.

Prereq: Not open to students with credit for 721.

7721 Epidemiology of Zoonotic Diseases G V 3

Basic epidemiology of important zoonotic diseases, focusing on their etiology and epidemiology. Common manifestations in humans and animals, diagnostic procedures, and specific preventive and control measures.

Prereq: 2nd, 3rd, or 4th yr standing in Veterinary Medicine program. Not open to students with credit for 721.

7722 Foodborne Diseases, Food Animal Production Systems, and Food Safety G V 3

Overview of how the food chain for the most common products of animal origin works, with special emphasis in pre-harvest safety, describes most common food-borne bacterial and viral diseases, antimicrobial resistance, HACCP.

Prereq: Grad standing or enrollment in Veterinary Medicine Program. Not open to students with credit for 722.

7723 Biosecurity, Environmental Health, and Other Veterinary Public Topics G V 3

Overview of biosecurity (bioterrorism, preparedness, management of zoonotic outbreaks), environmental health issues related to human and animal interactions, and other topics concerning veterinary public health.

Prereq: 1st (second semester), 2nd, or 3rd yr standing in Veterinary Medicine program, or Grad standing. Not open to students with credit for 723.

7724 Contemporary Issues in Animal Welfare V 1

Give students the opportunity to explore current issues in animal welfare through reading, presentations and discussion.

Prereq: Not open to students with credit for 724.01. Cross-listed in AnimSci.

7725 Veterinary Epidemiology and Applied Data Analysis G 3

Provides students with an understanding of the basic approaches and philosophies that are the foundation for the science of epidemiology, as well as hands-on applications of biostatistics in veterinary medicine and veterinary public health.

Prereq: PubHEpi 6410 or 6430 (710), and PubHBio 6210 (701).

7730 Emerging Zoonotic Diseases in a Global Context G V 2

Overview of the most important emerging zoonotic diseases in different geographical regions of the world, focusing in their local epidemiology, recent outbreaks, prevention, and potential impact in the United States.

Prereq: 1st (second semester), 2nd, or 3rd yr standing in Veterinary Medicine program; or grad standing. Not open to students with credit for 730.

7735 Veterinary Practice Management G V 1

Provides business skills, knowledge, and information necessary to successfully operate a veterinary practice.

Prereq: Enrollment in DVM program. Not open to students with credit for 750.

7745 Basic Exotic Animal Medicine -- Non Mammalian V 1

Provide a basic background for a new graduate veterinarian regarding exotic species commonly treated in a companion animal setting. Non-mammalian species will be covered (fish, amphibians, reptiles).

Prereq: 1st (second semester), 2nd, or 3rd yr standing in Veterinary Medicine program, or Grad standing. Not open to students with credit for VMColl 608.

7760 Opportunities in Global Veterinary Medicine and Public Health G V 2½

This elective course is designed as a preparatory course for veterinary professional (DVM) curriculum and Masters of Public Health, MPH-VPH students who plan to engage in international and non-traditional veterinary medicine and public health.

This course is graded S/U.

7761 Tropical Animal Husbandry and Health G V 1 - 3

This elective course is designed as a practical international experience for DVM and MPH students who plan to engage in international and non-traditional veterinary medicine and public health.

This course is graded S/U.

7770 Zoo and Wildlife Medicine I G V 1

General concepts and principles related to zoo and wildlife medicine. Allows Veterinary students to increase their exposure to nontraditional fields of practice.

Prereq: Grad or professional standing in Veterinary Medicine program. Not open to students with credit for 770. This course is graded S/U.

7771 Zoo and Wildlife Medicine II G V 2

Intended for students who have an interest in advancing their clinical and practical knowledge of zoo and wildlife medicine.

Prereq: 7770; and 1st (second semester), 2nd, 3rd, or 4th yr standing in Veterinary medicine program; or grad standing. Not open to students with credit for 771.

7773 Bovine Palpation V 3

Laboratory and lecture based course designed to familiarize the student with the techniques of bovine reproductive examination, rectal palpation, ultrasound, pregnancy diagnosis and management.

Prereq: VetClin 7746 and VMColl 6605, and 3rd yr standing in Veterinary Medicine program, and a Food Animal, Mixed Animal, or Individualized Career Area of Emphasis, and permission of instructor. Not open to students with credit for 796.17.

7774 Bovine Theriogenology G V 1

Physiology of the estrous cycle and synchronization strategies in the bovine. Techniques such as artificial insemination and embryo transfer, causes for embryonic loss, obstetric procedures, transition period, and bull fertility will be covered.

Prereq: 3rd yr standing in Veterinary Medicine program; or DVM or equiv; or permission of instructor. Not open to students with credit for 796.18.

7775 Interactive Experiences in Laboratory Animal Medicine V 1

Provides students with an opportunity to obtain practical and clinical experience with traditional laboratory animals and pocket pet species. Coursework is primarily hands-on with supplemental online and didactic material.

Prereq: 7720, and Professional standing in Veterinary Medicine program.

7776 Dairy Herd Management and Preventive Medicine G V 2

Applications of preventive medicine practices at the dairy herd level (small or large). Herd health programs, transition period, and laboratory practices in mastitis control will be covered. Prereq: 2nd or 3rd yr standing in Veterinary Medicine program; or grad standing. Not open to students with credit for 796.06.

7778 Topics in Dairy Production Medicine G V 1

Expose students to leaders in the dairy industry and production medicine as well as to ideas that they may not be exposed to anywhere else in the veterinary professional curriculum.

Prereq: Grad or professional standing in Veterinary Medicine program. Not open to students with credit for 796.16. This course is graded S/U.

7779 Diseases of Swine V 2

In this course some of the most commonly diagnosed swine diseases and conditions will be discussed. Emphasis is placed on disease etiology, epidemiology, pathogens, treatment, prevention and control from the practitioners perspective.

Prereq: Professional standing in Veterinary Medicine program. Not open to students with credit for 796.08.

7780 Veterinary Forensics V 2

Covers forensic examination of living and deceased victims as well as proper evidence collection and presentation to aid in the conviction of animal abusers.

Prereq: Professional standing in Veterinary Medicine program.

7781 Advanced Topics in Zoo and Wildlife Medicine G 1

Designed for residents in ecosystem and wildlife health, this course consists of weekly seminars given by the students and instructors covering current literature and topical overviews as assigned.

Repeatable to a maximum of 9 cr hrs.

7895.01 Current Topics in Laboratory Animal Medicine G V 1

This journal club is directed at laboratory animal residents, graduate students and veterinary medicine students interested in current topics in laboratory animal medicine. Emphasis is placed on the three most recent years of selected journals.

Prereq: Grad standing, Second semester of first-year, or second-year standing in the Veterinary Medicine Program. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7895.02 Literature of Production Medicine G V 1

Introduce students to critical reading of scientific literature related to production medicine. During class sessions, selected scientific articles related to production medicine will be discussed and critically reviewed.

Prereq: Professional standing in Veterinary Medicine Program. Not open to students with credit for 769.12. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

7895.03 Literature of Production Medicine G 1

Introduce students to critical reading of scientific literature. During class sessions, selected scientific articles related to production medicine and veterinary public health will be discussed and critically reviewed.

Prereq: Grad or professional standing in Veterinary Medicine Program. Not open to students with credit for 769.12. Repeatable to a maximum of 2 cr hrs.

Veterinary Preventive Medicine 441

7896 Veterinary Disaster Response	G V 1
This course is delivered online in an asynchronous format. Students will be expected to complete relevant Federal Emergency Management Agency courses online designed to familiarize students with the Incident Command Structure and animal disaster response.	
Prereq: Current standing in CVM. This course is graded S/U.	
7998 Culminating Project in Veterinary Public Health	G V 1 - 3
The final project for the veterinary MPH degree that can be a research report, program evaluation, or grant proposal.	
Prereq: Enrollment in the MPH degree program, and permission of advisor or director of VPH program. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.	
8613 Preventing Metabolic Diseases and Records Analysis for Dairy Cattle	G V 3
Feeding management of dairy cattle for the prevention of metabolic diseases and analysis of dairy records for production medicine decisions.	
Prereq: 8796.06 or AnimSci 3130 or equiv; and third or fourth-year standing in professional program in Veterinary Medicine, Grad standing, or permission of instructor. Not open to students with credit for 796.13, or in same term as AnimSci 6303.	
8700 Molecular Epidemiology of Infectious Diseases	G V 3
Comprehensive overview and detailed discussion on the core molecular approaches that are and can be used in addressing population medicine issues and application of molecular techniques in infectious diseases.	
Prereq: Not open to students with credit for 700.	
8724 Advanced Concepts in Biodefense and Emerging Infectious Diseases	G V 2
Provides an overview understanding of the most important biodefense and emerging infectious agents, their epidemiology, pathogenesis, animal models, and medical/environmental countermeasures with reference to regulatory requirements. Lectures will focus on the "One Health-One Medicine" concept which links human medicine, veterinary medicine, and environmental science.	
Prereq: Open only for Grad and professional students.	
8782 Veterinary Clinical Epidemiology	G 1
Intended for clinical residents and veterinary graduate students with a strong interest in the application of epidemiology concepts to the clinical practice of veterinary medicine.	
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 820.	
8810 Principles of Epidemiologic Theory	G 2
Focuses on principal theories and issues related to epidemiology. The goal of this course is to help the student to develop an understanding of important concepts and philosophical debates relevant to scientific investigation.	
Prereq: Not open to students with credit for 810.	
8830 Modeling Transmission Processes and Control of Infectious Diseases in Humans and Animals	G V 3
Intensive course that provides an introduction to computer models of infectious diseases and their applications. Includes lecture and laboratory and focuses on applications rather than mathematical theory.	
Prereq: 1st (second semester), 2nd, 3rd, or 4th yr standing in Veterinary Medicine Program, or Grad standing.	
8851 Laboratory Animal Medicine 1	G 2
A series of courses providing the student with a comprehensive view of lab animal medicine practice. Includes diseases, preventive medicine, effective management of an animal care program, performance of research, and facility design.	
Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.01.	
8852 Laboratory Animal Medicine 2	G 2
Second in a series of courses to provide students with a comprehensive view of the lab animal medicine practice. Includes diseases, preventive medicine, effective management of an animal care program, performance of research and facility design.	
Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.02.	
8853 Laboratory Animal Medicine 3	G 2
Third in a series of courses providing the student with a comprehensive view of lab animal medicine practice. Includes diseases, preventive medicine, effective management of an animal care program, performance of research and facility design.	
Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.03.	
8854 Laboratory Animal Medicine 4	G 2
Fourth in a series of courses providing students with a comprehensive view of lab animal medicine practice. Includes diseases, preventive medicine, effective management of an animal care program, performance of research and facility design.	
Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.04.	
8855 Laboratory Animal Medicine 5	G 2
Fifth in a series of courses providing students with a comprehensive view of lab animal medicine practice. Includes diseases, preventive medicine, effective management of an animal care program, performance of research and facility design.	
Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.05.	

8856 Laboratory Animal Medicine 6	G 2
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Sixth in a series of courses providing students with a comprehensive view of lab animal medicine practice. Includes diseases, preventive medicine, and effective management of an animal care program, performance of research and facility design.

Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.06, 793.07, and 793.08.

8891.01 Comparative and Veterinary Medicine Graduate Student Seminar	G 1
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Research seminars are the foundation of scientific discourse. This course provides graduate students with experience presenting their research and evaluating presentations by others.

Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

8891.02 Comparative and Veterinary Medicine Graduate Student Seminar	G 1
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Research seminars are the foundation of scientific discourse. This course provides graduate students with experience presenting their research and evaluating presentations by others. Repeatable to a maximum of 3 cr hrs.

8999 Research in Veterinary Preventive Medicine	G 1 - 10
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Research for dissertation purposes only.

Repeatable to a maximum of 60 cr hrs or 60 completions. This course is graded S/U.

Vision Science

5500 Global Issues in Eye Care	U G 1
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Designed for students with diverse backgrounds in healthcare. This course will provide an overview of the common causes of vision impairment and eye disease. Means to eliminate avoidable blindness will also be discussed.

Prereq: Not open to students with credit for 781.

5998 Individual Studies in Vision Research	U G 1 - 8
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Individual investigation of a research problem related to vision and/or the eye.

Prereq: Permission of instructor. Not open to students enrolled concurrently in 8999.

Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

6100 General and Histological Anatomy	O 4
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Gross and microscopic anatomy of the body with emphasis on head and neck anatomy and organ systems.

Prereq: 1st yr standing in Optom.

6110 General and Visual Neuroanatomy	G O 4
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Anatomy of the central and peripheral nervous system with special emphasis on autonomic system and anatomy of the visual system.

Prereq: 1st yr standing in Optom. Not open to students with credit for 531 or 608.

6130 Pathophysiology I	O 5
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Provides a comprehensive introduction to pathology, including: inflammation, genetic disease, and neoplasia. Pathophysiology of blood, GI, endocrine, and respiratory systems will be examined in detail.

Prereq: 1st yr standing in Optom.

6140 Pathophysiology II	O 5
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The pathophysiology of the nervous system, muscle systems, cardiovascular, renal, and immune systems. Students will integrate information from VisSci 6130.

Prereq: 1st yr standing in Optom.

6160 Biochemistry for Optometry	O 1
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This course is designed to help optometry students integrate biochemistry with concepts related to ocular pathology, and therapeutic treatment.

Prereq: 1st yr standing Optom. This course is graded S/U.

6170 Microbiology for Optometry	O 1
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This course is designed to help optometry students integrate microbiology with concepts related to ocular pathology, and therapeutic treatment.

Prereq: 1st yr standing in Optom. Not open to students with credit for 508. This course is graded S/U.

6300 Visual Neurophysiology and Perception	G O 5
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Spatial, temporal and chromatic aspects of visual sensation by retina, lateral geniculate, cortex and other brain centers; psychophysics of visual perception; disorders affecting visual pathway.

Prereq: 2nd yr standing in Optom.

6320 Eye Movements and Binocular Vision	G O 5
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Characteristics of and clinical evaluation of monocular and binocular eye movements.

Prereq: 2nd yr standing in Optom.

6500 Geometric Optics	G O 5
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Vergence, ray tracing and image formation. Refracting and reflecting surfaces, lenses, prisms, model eyes. Magnification, apertures and stops, astigmatism, prismatic effects of lenses, aberrations.

Prereq: 1st yr standing in Optom.

442 Vision Science

6520 Optics of the Eye	G O	4	8010 Optics of the Eye and Specification of the Visual Stimulus	G	4
Optics of ametropias and their correction, classification and etiology of refractive errors, schematic eyes, retinal image size, optics of clinical instruments, optics of accommodation, aberrations of the eye. Prereq: 1st yr standing in Optom.			Ocular image-forming mechanisms of the eye and optics of ophthalmic instrumentation, specification of light, calibration and control of intensity and spectral composition of light. Prereq: Grad standing in VisSci.		
6540 Physical Optics and Photometry	G O	3	8020 Ocular Motility and Binocular Vision	G	4
Principles of photometry and colorimetry; light sources; diffraction, polarization, interference, electromagnetic waves, quantum optics, lasers. Prereq: 1st yr standing in Optom.			Advanced topics on eye movements, ocular motility, and sensorimotor aspects of visual perception and binocular vision. Prereq: Grad standing in VisSci.		
6700 Ocular Anatomy	G O	4	8030 Visual Neurophysiology, Biophysics, and Psychophysics	G	4
Human gross anatomy of the head and neck with special emphasis on the eye and orbit; histology and embryology of the eye and associated structures. Prereq: 1st yr standing in Optom.			Neurophysiology of the retina, the ascending visual pathway, and the brain, and their functional significance. Prereq: Grad standing in VisSci. Not open to students with credit for 803.		
6720 Ocular Physiology	G O	3	8040 Anatomy and Physiology of the Eye	G	4
Functions and organic processes of the components of the eye and surrounding structures. Prereq: 1st yr standing in Optom.			Advanced gross anatomy and vegetative physiology and molecular biology of the eye. Prereq: Grad standing in VisSci.		
7101 Basics of Graduate Work	G	1	8100 Advanced Topics in Vision Science	G	1 - 5
Basic information for graduate work, such as citation management, writing abstracts, making presentations. This course is graded S/U.			Advanced studies on special problems in vision science. Prereq: Grad standing in VisSci. Repeatable to a maximum of 60 cr hrs or 15 completions.		
7620 Public Health and Environmental Vision	G O	3	8101 Designing Clinical Studies	G	1
Public health/community aspects of providing vision care, health care organizations and policies, vision standards, environmental vision, eye hazards and eye protection. Prereq: 3rd yr standing in Optom.			Learn to design clinical studies to appropriately answer important clinical research questions.		
7940 Oral Presentation of Scientific Research	G	1 - 3	8102 Scientific Writing and Presentation	G	2
Student gives a talk based on his/her research or scholarship and improves his/her speaking skills. Prereq: Grad standing in VisSci. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.			Developing effective scientific writing and other presentation skills. Prereq: PhD student in Vision Science.		
7950 Seminar in Vision Science	G	½ - 1	8103 Circadian Rhythms and the Eye	G	2
Series of seminars dealing with new developments in the various areas of vision science. Prereq: Grad standing in VisSci. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.			Advanced topics in chronobiology with emphasis on the role of the eye in synchronizing circadian rhythms to the external environment. Prereq: 6300, or permission of instructor.		
7960 Ethics in Biomedical Research	G	2	8104 High Resolution Imaging of the Eye using Adaptive Optics	G	1
Provides a general understanding of the issues surrounding the ethical conduct of science including issues related to research involving human subjects, scientific misconduct, and authorship of scientific papers. Real-life case studies will be used. This course is graded S/U.			Optical imaging of the human retina now allows visualization of single cells in vivo. This course will describe how this is achieved and detail the application to retinal and optic nerve diseases.		
7970 Grantsmanship	G	2	8105 Advanced Ocular Motility	G	1
The structure of the National Institutes of Health, the principles of good grantsmanship, and description of the grant review process. Emphasis focused on Mentored Clinical Scientist Development Award (K23) and Research Project Grant (R01). Prereq: Grad standing in VisSci. Repeatable to a maximum of 4 cr hrs.			The basics of experimental design in ocular motility studies including equipment choices, properties of eye movements, and data analyses. Prereq: 8002 or 8020.		
7980 Statistics in Clinical Research	G	2	8106 Refractive Error Development	G	2
Introduction to the basic concepts and methods of statistical analysis of clinical research data. Statistical software packages will be demonstrated along with interpretation of output. Prereq: Grad standing in VisSci. Repeatable to a maximum of 4 cr hrs or 2 completions.			Students learn about ocular changes that lead to the development of refractive error in children. Prereq: Grad Standing in Vision Science or related discipline.		
7990 Assessing the Literature	G O	½ - 2	8107 Basic Science Experimental Design	G	2
In-depth discussion of scientific papers. Prereq: Grad standing in VisSci. Not open to students with credit for 799. Repeatable to a maximum of 20 cr hrs or 8 completions. This course is graded S/U.			Teaches various aspects of designing basic science experiments, from choosing controls to data analysis.		
8001 Anatomy and Physiology of the Eye	G	2	8108 Introduction to Matlab	G	2
Advanced gross anatomy and vegetative physiology and molecular biology of the eye. Prereq: Grad standing in VisSci, or permission of instructor. Not open to students with credit for 8040.			An introduction to Matlab and its applications in research. Prereq: Grad standing in VisSci or related discipline.		
8002 Ocular Motility and Binocular Vision	G	2	8109 Psychophysics	G	2
Advanced topics on eye movements, ocular motility, and sensorimotor aspects of visual perception and binocular vision. Prereq: 6300 and 6320, or permission of instructor. Not open to students with credit for 8020.			This course will cover visual psychophysical techniques commonly used in clinical research. Prereq: Grad standing in VisSci.		
8003 Visual Sensory Processes	G	2	8111 Advanced Topics in Low Vision	G	1
Neurophysiology of the retina, the ascending visual pathway, and the brain, and their functional significance. Prereq: Enrollment in Vision Science Grad program, or permission of instructor. Not open to students with credit for 8030.			Advanced topics in models for rehabilitation, patient-reported outcomes measurement, and psychophysical testing of people with permanent vision impairment. Prereq: Grad standing in VisSci.		
8004 Optics of the Eye and Specification of the Visual Stimulus	G	2	8112 Advanced Binocular Vision and Visual Plasticity	G	1
Ocular image-forming mechanisms of the eye and optics of ophthalmic instrumentation, specification of light, calibration, and control of intensity and spectral composition of light. Prereq: Grad standing in VisSci program, or permission of instructor.			Structural, molecular, and functional considerations of mechanisms underlying visual plasticity. Prereq: Grad standing in VisSci or related discipline.		
8013 Clinical Trials in Binocular Vision	G	1/2	8113 Clinical Trials in Binocular Vision	G	1/2
Review of recent clinical trials in binocular vision, such as amblyopia and intermittent exotropia. Prereq: Grad standing in VisSci.			Review of recent clinical trials in binocular vision, such as amblyopia and intermittent exotropia. Prereq: Grad standing in VisSci.		
8014 Advanced Contact Lens Topics	G	2	8114 Advanced Contact Lens Topics	G	2
Advanced topics related to contact lens materials and care, lens modalities, advanced fitting techniques, adverse events and regulations. Prereq: Grad standing in VisSci.			Advanced topics related to contact lens materials and care, lens modalities, advanced fitting techniques, adverse events and regulations. Prereq: Grad standing in VisSci.		
8015 Effective Scientific Presentation Skills	G	2	8115 Effective Scientific Presentation Skills	G	2
Develop skills to communicate scientific findings using a variety of presentation formats. Prereq: Grad standing in VisSci or related discipline.			Develop skills to communicate scientific findings using a variety of presentation formats. Prereq: Grad standing in VisSci or related discipline.		

8999 Research for Dissertation or Thesis G 1 - 15

Research on thesis or dissertation project only.
Prereq: Grad standing in VisSci. Repeatable to a maximum of 90 cr hrs or 15 completions.
This course is graded S/U.

Welding Engineering

3001 Survey of Welding Engineering U 3

Study of the principles of welding engineering, including processes, design, weldability of materials, codes and standards, and quality assurance.
Prereq: WeldEng major, Physics 1251 (132, 133), and MatScEn 2010 (205); or permission of instructor. Not open to students with credit for 300.

3193.01 Individual Studies in Welding Engineering U ½ - 6

Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.
This course is graded S/U.

3193.02 Individual Studies in Welding Engineering U ½ - 6

Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

3601 Introductory Arc Welding Laboratory U 1

Basic skills required for manual and semiautomatic arc welding processes.
Prereq: Chem 1250 or 1210; and Math 1151 or 1161; and Physics 1250 or 1260; and enrollment as WeldEng-BS major or pre-major student; or permission of instructor. Not open to students with credit for 350 or 351.

4001 Physical Principles in Welding Processes I U 4

Study of the application of physical principles in engineering of arc welding processes and equipment.
Prereq: 3001, and enrollment as WeldEng-BS major. Prereq or concur: ECE 2300; or permission of instructor. Not open to students with credit for 500, 550, or 600.

4002 Physical Principles in Welding Processes II U 4

Study of the application of physical principles in engineering of non-arc welding processes and equipment.
Prereq: 4001, and enrollment in the WeldEng-BS major or MatScEn-BS major; or permission of instructor. Not open to students with credit for 600, 601, and 651.

4003 Principles of Welding Process Control U 3

Study of principles and practical application of control systems and control elements of welding processes.
Prereq: 4001, and enrollment in the WeldEng-BS or MatScEn-BS major; or permission of instructor. Not open to students with credit for 605.

4012 Resistance Welding Processes U 3

Addresses the fundamentals, theory, and application of Resistance Welding processes, with emphasis on processes, equipment, materials, and quality control.
Prereq: 4002, and enrollment as WeldEng-BS major; or permission of instructor. Not open to students with credit for 602 or 702.

4021 Solid-State Welding/Joining U 3

The welding and joining of materials in the solid state with emphasis on physical processes and metallurgical principles.
Prereq: 4001 and 4102, and enrollment in the WeldEng-BS or MatScEn-BS major; or permission of instructor. Not open to students with credit for 701.

4023 Brazing and Soldering U 3

Brazing and soldering processes with emphasis on physical and metallurgical principles, materials, design and application considerations.
Prereq: 4101, and enrollment in the WeldEng-BS or MatScEn-BS major; or permission of instructor. Not open to students with credit for 703.

4024 High Energy Density Welding Processes U 2

Theory and practice of laser, electron beam, and other high energy density welding processes.
Prereq: 4001, and enrollment as a WeldEng-BS or MatScEn-BS major; or permission of instructor. Not open to students with credit for 704.

4101 Welding Metallurgy I U 3

Application of physical metallurgy principles to nonequilibrium thermo-mechanical conditions associated with welding in structural alloys and focus on carbon steels.
Prereq: MatScEn 2251 and 3141, and enrollment as a WeldEng-BS or MatScEn-BS major.
Concur: 4611; or permission of instructor. Not open to students with credit for 610.

4102 Welding Metallurgy II U 3

Addresses the welding metallurgy and weldability principles associated with stainless steels, nickel-base, aluminum-base, and titanium-base alloys and other nonferrous alloys.
Prereq: 4101, and enrollment as WeldEng-BS major. Prereq or concur: 4612; or permission of instructor. Not open to students with credit for 612.

4112 Weldability U 3

Teaches the basic concepts of weldability and focuses on failure mechanisms in welded construction. Failure phenomena that occur during fabrication, repair, and during service are discussed.

Prereq: 4101, and WeldEng-BS major; or permission of instructor. Not open to students with credit for 714 or 715.

4115 Computational Analysis of Welding Processes and Welded Materials U 3

Fundamental understanding of temperature, stress, deformation, microstructure and property evolutions in welds using an integrated computational modeling approach.

Prereq: 4101 and 4002, and enrollment in the WeldEng-BS or MatScEn-BS major; or permission of instructor. Not open to students with credit for 715.

4121 Computational Thermodynamics and Kinetics U 2

Comprehensive background on computational thermodynamics and kinetics. Includes focus on CALPHAD (Calculation of Phase Diagram) methodology.

Prereq: MatScEn 2251 and 3151, or equivalents; or grad standing in MatScEn or WeldEng, or permission of instructor. Not open to students with credit for 7121. Cross-listed in MatScEn 5321.

4189 Industrial Experience U 1

Experience in an industrial organization and the submitting of an acceptable report on the work done.

Prereq: 4002 and 4202, and enrollment as a WeldEng-BS major; or permission of instructor. Not open to students with credit for 489.

4193.01 Individual Studies in Welding Engineering U 1 - 6

Non-thesis research investigations under the directions of instructors. Comprehensive report required.

Prereq: Enrollment as a WeldEng-BS major or MatScEn-BS major; and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

4193.02 Individual Studies in Welding Engineering U 1 - 6

Non-thesis research investigations under the directions of instructors. Comprehensive report required.

Prereq: Enrollment as a WeldEng-BS major or MatScEn-BS major; and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

4194 Group Studies in Welding Engineering U 1 - 4

Special topics in Welding Engineering. Topic, credit hours, and instructor will be announced in the preceding semester.

Repeatable to a maximum of 12 cr hrs or 6 completions.

4201 Engineering Analysis for Design and Simulation U 4

Fundamentals of engineering analysis of heat flow, thermal and residual stresses, and fracture and fatigue with applications to design and simulation in welding and manufacturing.

Prereq: 3001; and Math 2177, or 2255, or 2415, or 2174; and MechEng 2040 or 2020; and Engr 1221 or 1281H; and enrollment in WeldEng major; or permission of instructor. Not open to students with credit for 620 or 621.

4202 Welding Design U 3

Fundamentals of design and application of codes and standards for welded structures.

Prereq: 4201, and enrollment as a WeldEng-BS major; or permission of instructor. Not open to students with credit for 621 or 641.

4240 Fitness-for-Service of Welded Structures U 2

The interrelationship of design, fabrication, nondestructive evaluation, fracture mechanics, and reliability concepts in establishing the overall fitness-for-purpose of welded structures.

Prereq: 4201, and enrollment as a WeldEng-BS major; or permission of instructor. Not open to students with credit for 740.

4301 Nondestructive Evaluation U 3

Main concepts of Nondestructive Evaluation of materials as applied to inspections of joints and structures; principles of conventional methods and their capabilities and limitations.

Prereq: 4201, and enrollment as a WeldEng-BS major; or permission of instructor. Not open to students with credit for 631.

4303 Ultrasonic Nondestructive Testing U 3

Principles of ultrasonic wave generation, interaction of ultrasonic waves with material structures with emphasis on characterization of material properties, and quantitative ultrasonic evaluation of material discontinuities.

Prereq: 4103, and enrollment as WeldEng-BS major; or permission of instructor. Not open to students with credit for 732.

4406 Welding of Plastics and Composites U 3

Theory and practice in welding of plastics and polymeric composites, including theory and analysis of welding processes, part and joint design, and process selection.

Prereq: 4201, and enrollment as a WeldEng-BS major; or permission of instructor. Not open to students with credit for 706.

4407 Adhesive Bonding and Mechanical Joining of Plastics U 2

Fundamentals of adhesive bonding science and technology and methods for mechanical joining of plastics including fasteners, snap-fits, press-fits, swaging, and staking.

Prereq: 4201, and enrollment as a WeldEng-BS major; or permission of instructor. Not open to students with credit for 707.

444 Welding Engineering

4595 Topics in Welding Engineering	U 2	7012 Resistance Welding Processes	G 3
Theory and application of novel and hybrid welding processes. Prereq: 4002, and enrollment as a WeldEng-BS major; or permission of instructor. Not open to students with credit for 695.		Addresses the fundamentals, theory, and application of Resistance Welding processes, with emphasis on processes, equipment, materials, and quality control. Prereq: 7002 or 4002, and Grad standing; or permission of instructor. Not open to students with credit for 4012 (602) or 702.	
4602 Welding procedure development	U 1	7021 Solid-State Welding/Joining	G 3
Development of welding procedure specifications for arc and resistance spot welding processes. Qualification of welding procedures to commonly-used codes and specification. Prereq: WeldEng 4002.		The welding and joining of materials in the solid state with emphasis on physical processes and metallurgical principles. Prereq: 7001, 7002, 7101, 7102, 4001, 4002, 4101, or 4102, and Grad standing; or permission of instructor. Not open to students with credit for 4021 (701).	
4606 Welding Robot Programming and Operations	U 1	7023 Brazing and Soldering	G 3
Laboratory experience programming and operation of robotic welding systems. Prereq: 3001, and enrollment as a WeldEng-BS major; or permission of instructor. Not open to students with credit for 656.		Brazing and soldering processes with emphasis on physical and metallurgical principles, materials, design and application considerations. Prereq: 7101 or 4101, and 7102 or 4102, and Grad standing; or permission of instructor. Not open to students with credit for 4023 (703).	
4611 Welding Metallurgy Laboratory I	U 1	7024 High Energy Density Welding Processes	G 2
Fundamental understanding of microstructure evolution in alloys and steels during heat treatment, as well as welding through various characterization techniques. Prereq: MatScEn 3141, and enrollment as a WeldEng-BS or MatScEn-BS major. Concur: WeldEng 4101; or permission of instructor. Not open to students with credit for 661.		Theory and practice of laser, electron beam, and other high energy density welding processes. Prereq: 4001 or 7001, and Grad standing; or permission of instructor. Not open to students with credit for 4024 (704).	
4612 Welding Metallurgy Laboratory II	U 1	7101 Welding Metallurgy I	G 3
Offered in conjunction with WeldEng 4102: Welding Metallurgy 2. The course demonstrates microstructure evolution and weldability principles in stainless steels and nonferrous alloys. Prereq or concur: 4102, and enrollment in WeldEng-BS major; or permission of instructor. Not open to students with credit for 662.		Application of physical metallurgy principles to nonequilibrium thermo-mechanical conditions associated with welding in structural alloys and focus on carbon steels. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4101 (610) or 611.	
4901 Capstone Welding Design I	U 2	7102 Welding Metallurgy II	G 3
Group design projects building on all aspects of Welding Engineering. Prereq: Sr standing in WeldEng-BS major, or permission of instructor. Not open to students with credit for 690 and 691.		Addresses the welding metallurgy and weldability principles associated with stainless steels, and nickel-base, aluminum-base, and titanium-base alloys. Prereq: 7101 or 4101, and Grad standing; or permission of instructor. Not open to students with max credit for 4102 (612).	
4902 Capstone Welding Design II	U 3	7112 Weldability	G 3
Group design projects building on all aspects of Welding Engineering. Prereq: 4901, and enrollment as a WeldEng-BS major; or permission of instructor. Not open to students with credit for 692.		Teaches the basic concepts of weldability and focuses on failure mechanisms in welded construction. Failure phenomena that occur during fabrication, repair, and during service are discussed. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4112 (714) or 715.	
4998 Undergraduate Research in Welding Engineering	U 1 - 3	7115 Computational Analysis of Welding Processes and Welded Materials	G 3
Opportunity for supervised undergraduate research in Welding Engineering. Prereq: Enrollment as a WeldEng-BS major, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.		Fundamental understanding of temperature, stress, deformation, microstructure and property evolutions in welds using an integrated computational modeling approach. Prereq: 7002 or 4002, and Grad standing; or permission of instructor. Not open to students with credit for 4115 (715).	
4999 Undergraduate Research	U ½ - 3	7121 Computational Thermodynamics and Kinetics	G 2
Supervised undergraduate research on topics in Welding Engineering (non-honors version). Prereq: Enrollment in WeldEng-BS major, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.		Comprehensive background on computational thermodynamics and kinetics. Includes focus on CALPHAD (Calculation of Phase Diagram) methodology. Prereq: MatScEn 2251 and 3151, or equiv, or Grad standing in MatScEn or WeldEng, or permission of instructor. Not open to students with credit for 4121. Cross-listed in MatScEn 5321.	
4999H Undergraduate Honors Research in Welding Engineering	U 1 - 3	7193.01 Individual Studies in Welding Engineering	G 1 - 6
Honor program students are offered the opportunity for supervised undergraduate research in Welding Engineering. Student presentation and thesis writing included. Prereq: Honors standing, enrollment as a WeldEng-BS major, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.		Non-thesis research investigations under the directions of instructors. Comprehensive report required. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.	
5038 Introduction to Ultrasonics - With Applications	U G 3	7193.02 Individual Studies in Welding Engineering	G 1 - 6
The fundamental principles of ultrasonics will be covered, followed by the interaction of ultrasound with materials, and concluding with investigations of the major industrial applications. Prereq: Math 2177, 2255, or 2415, and MechEng 2040; or permission of instructor. Not open to students with credit for 638 or MechEng 638.		Non-thesis research investigations under the directions of instructors. Comprehensive report required. Repeatable to a maximum of 12 cr hrs or 12 completions.	
6194 Group Studies in Welding Engineering	G 1 - 4	7194 Group Studies in Welding Engineering	G 1 - 4
Special topics in Welding Engineering. Topic, credit hours, and instructor will be announced in the preceding semester. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 8 completions.		Special topics in welding engineering; topic, credit hours, and instructor will be announced in the previous semester. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 8 completions.	
6999 Graduate Research in Welding Engineering	G ½ - 18	7201 Engineering Analysis for Design and Simulation	G 4
Research for thesis purposes only. Repeatable to a maximum of 45 cr hrs or 15 completions. This course is graded S/U.		Fundamentals of engineering analysis of heat flow, thermal and residual stresses, and fracture and fatigue with applications to design and simulation in welding and manufacturing. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4201 (620) or 621.	
7001 Physical Principles in Welding Processes I	G 3	7202 Welding Design	G 3
Study of the application of physical principles in engineering of arc welding processes and equipment. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4001 (500) or 600.		Fundamentals of design and application of codes and standards for welded structures. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4202 (641) or 621.	
7002 Physical Principles of Welding Processes II	G 3	7240 Fitness-for-Service of Welded Structures	G 2
Study of the application of physical principles in engineering of non-arc welding processes and equipment. Prereq: 7001 or 4001, and Grad standing; or permission of instructor. Not open to students with credit for 4002 (600) or 601.		The interrelationship of design, fabrication, nondestructive evaluation, fracture mechanics, and reliability concepts in establishing the overall fitness-for-purpose of welded structures. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4240 (740).	
7003 Principles of Welding Process Control	G 3		
Study of principles and practical application of control systems and control elements of welding processes. Prereq: 7001 or 4001, and Grad standing; or permission of instructor. Not open to students with credit for 4003 (605) or 655.			

7301 Nondestructive Evaluation	G 3	2215 Reading Women Writers	U 3
Main concepts of Nondestructive Evaluation of materials as apply to inspections of joints and structures; principles of conventional methods, their capabilities and limitations.		Study of women writers' strategies for articulating experiences and using literature as a lens for social reality and catalyst for social and political change.	
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4301 (631).		Prereq: Not open to students with credit for 215. GE lit course.	
7302 Industrial Radiography	G 3	2230 Gender, Sexuality and Race in Popular Culture	U 3
Basic elements of industrial radiography, characterization of a radiographic system as a linear system, quality of radiographs, real-time radiography, microradiography, and computerized tomography.		Explores how popular culture generates and articulates our understandings of gender and sexuality and their intersections with race and class.	
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4302 (635).		Prereq: Not open to students with credit for 230. GE VPA course.	
7303 Ultrasonic Nondestructive Testing	G 3	2282 Introduction to Queer Studies	U 3
Principles of ultrasonic wave generation, interaction of ultrasonic waves with material structures with emphasis on characterization of material properties, and quantitative ultrasonic evaluation of material discontinuities.		Introduces and problematizes foundational concepts of the interdisciplinary field of queer studies, highlighting the intersections of sexuality with race, class, and nationality.	
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4303 (732).		Prereq: Not open to students with credit for 282 or English 2282 (282). GE cultures and ideas and diversity soc div in the US course. Cross-listed in English.	
7406 Welding of Plastics and Composites	G 3	2296H Topics in Women's, Gender and Sexuality Studies	U 3
Theory and practice in welding of plastics and polymeric composites, including theory and analysis of welding processes, part and joint design, and process selection.		In-depth study in women's, gender and sexuality studies focusing on current issues in feminist analysis.	
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4406 (706).		Prereq: Honors standing.	
7407 Adhesive Bonding and Mechanical Joining of Plastics	G 2	2300 Approaches to Feminist Inquiry	U 3
Fundamentals of adhesive bonding science and technology and methods for mechanical joining of plastics including fasteners, snap-fits, press-fits, swaging, and staking.		Introduction to principles of feminist analysis as they apply to a range of contemporary issues and institutions.	
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4407 (707).		Prereq: Not open to students with credit for 300.	
7611 Welding Metallurgy Laboratory I	G 1	2305 Gender and Sexuality in Global Perspective	U 3
Fundamental understanding of microstructure evolution in alloys and steels during heat treatment, as well as welding through various characterization techniques.		Investigates gender and sexuality in transnational and cross-cultural perspective.	
Prereq: Grad standing. Concur: 4101 or 7101, or permission of instructor. Not open to students with credit for 4611 (661).		Prereq: Not open to students with credit for 305.	
7612 Welding Metallurgy Laboratory II	G 1	2306 Girlhood	U 3
Offered in conjunction with 7102 - Welding Metallurgy II. The course demonstrates microstructure evolution and weldability principles in stainless steels and nonferrous alloys.		An examination of the contemporary contexts and social differences of female adolescence, including race, ethnicity, location, sexuality, class.	
Prereq or concur: 7102, and Grad standing; or permission of instructor. Not open to students with credit for 4612 (662).			
7895 Graduate Seminar	G 1	2325 Health and Inequality	U 3
Presentations and discussion by graduate students and involved outside speakers on thesis research and current problems in Welding Engineering.		An interdisciplinary inquiry into the relationships between health and gender under political, biological, economic, spiritual, cultural and/or socially constructed influences.	
Prereq: Grad standing in WeldEng. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.			
8004 Theory of Laser Welding	G 2	2326 Feminist Perspectives on Addiction	U 3
Theory of high energy density laser welding processes.		An interdisciplinary feminist focus on addictive consequences of sex-role socialization, substance abuse, addiction in intimate relationships, and eating disorders; consequences of addiction among women.	
Prereq: 4024 or 7024, and Grad standing; or permission of instructor. Not open to students with credit for 804.		Prereq: Not open to students with credit for 326.	
8194 Group Studies in Welding Engineering	G 1 - 4	2340 Latina Experience in the U.S.	U 3
Special topics in Welding Engineering. Topic, credit hours, and instructor will be announced in the preceding semester.		Introduces the important and far reaching issues of Latinas today, recognizing the contributions of these women to U.S. history, the women's movement and feminism.	
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 8 completions.		Prereq: Not open to students with credit for 340.	
8999 Graduate Research in Welding Engineering	G ½ - 18	2350 Feminist Perspectives on Women and Violence	U 3
Research for dissertation purposes only.		Uses an interdisciplinary feminist approach to analyze selected issues of interpersonal and institutionalized violence in which women are victims or perpetrators.	
Repeatable to a maximum of 60 cr hrs or 20 completions. This course is graded S/U.		Prereq: Not open to students with credit for 350.	
Women's, Gender, and Sexuality Studies			
1110 Gender, Sex and Power	U 3	2367.01 U.S. Women Writers: Text and Context	U 3
Introduces students to the study of gender, sex, and power. We will draw on a variety of literatures to analyze gender, race, sexuality, and other identities. We will place the study of US women in broader transnational contexts.		Writing about and analysis of female experiences as represented in U.S. literature by women; emphasis on interdisciplinary relationships between literature and socio-political history.	
Prereq: Not open to students with credit for 110, 110H, WomStds 101, 101H, 110, or 110H. GE cultures and ideas and soc sci indivs and groups and diversity soc div in the US course.		Prereq: English 1110 (110), and Soph standing. Not open to students with credit for 367.01. GE writing and comm: level 2 and lit and diversity soc div in the US course.	
1110H Gender, Sex and Power	U 3	2367.02 U.S. Latina Writers: Text and Context	U 3
Introduces students to the study of gender, sex, and power. We will draw on a variety of literature to analyze gender, race, sexuality, and other identities. We will place the study of US women in broader transnational context.		Writing and analysis of U.S. Latina experiences, with emphasis on interdisciplinary relationships between literature and U.S. Latina socio-political history.	
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 110, 110H, WomStds 101, 101H, 110, or 110H. GE cultures and ideas and soc sci indivs and groups and diversity soc div in the US course.		Prereq: English 1110 (110), and Soph standing. Not open to students with credit for 367.02. GE writing and comm: level 2 and lit and diversity soc div in the US course.	
2194 Group Studies	U 3	2367.03 U.S. Lesbian Writers: Text and Context	U 3
Special studies not otherwise offered.		Writing and analysis of U.S. lesbian experiences, with emphasis on interdisciplinary relationships between literature and U.S. lesbian socio-political history.	
Repeatable to a maximum of 6 cr hrs.		Prereq: English 1110 (110), and Soph standing. Not open to students with credit for 367.03. GE writing and comm: level 2 and lit and diversity soc div in the US course.	
History of Feminist Thought			
2550 History of Feminist Thought	U 3		
An introduction to and analysis of major texts of feminist theory as it has developed and changed since the Enlightenment.			
Prereq: Not open to students with credit for 550.			

446 Women's, Gender, and Sexuality Studies

2702 Modern Arabic Literature in Translation U 3

Reading and analysis of representative works of the 19th and 20th centuries by contemporary women authors.

Prereq: English 1110 (110). Not open to students with credit for 2702H (372H), 372, Arabic 2702 (372), or 2702H (372H). GE lit and diversity global studies course. Cross-listed in Arabic.

2702H Modern Arabic Literature in Translation U 3

Reading and analysis of representative works of the 19th and 20th centuries by contemporary women authors. Taught in English.

Prereq: Honors standing, and English 1110 (110); or permission of instructor. Not open to students with credit for 2702 (372), 372H, Arabic 2702 (372), or 2702H (372H). GE lit and diversity global studies course. Cross-listed in Arabic.

3191 Internship in Women's, Gender and Sexuality Studies U 1 - 3

Supervised practical experience at a departmental approved internship site related to the student's major or minor in Women's, Gender and Sexuality Studies.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

3302 Engendering Peace and Conflict U 3

Analysis of the gendered dimensions of political, ethnic, and economic situations involving armed struggle, security issues, and peace-building worldwide. Topics include terrorism, militarization, refugees, diplomacy, truth commissions, etc.

3306 Gender, Media, and New Technologies U 3

Explores how race, gender, class, sexuality, and physical ability discourses of the real world are or aren't redefined in the virtual world.

3310 Science Fiction: East vs. West U 3

Slavic, American, and British sci-fi on page and screen as reflection of major cultural concerns: progress, utopia, human perfectibility, limits of science and knowledge, gender, identity. Taught in English.

Prereq: Not open to students with credit for Slavic 3310 or 3320. GE VPA and diversity global studies course. Cross-listed in Slavic.

3317 Hollywood, Women, and Film U 3

A critical survey of the rep. of women in Hollywood cinema, examples drawn from the 1930's to present. Learn how film has functioned in its representation of women and how and why women film makers have created alternative visions of women in film.

Prereq: Not open to students with credit for 317. GE VPA course.

3320 Topics in Women's, Gender and Sexuality Studies U 3

Provides in-depth analyses of specific topics in the areas of difference and diversity, culture and representation, and political contexts and social change.

Prereq: Not open to students with credit for 320. Repeatable to a maximum of 6 cr hrs.

3370 Sexualities and Citizenship U 3

A survey of cultural, social, and political issues related to historical and contemporary lesbian experience in the United States.

Prereq: Not open to students with credit for 370. GE diversity soc div in the US course.

3385 Women in Political Leadership Internship U 3

Offers students opportunities to learn leadership and policy making skills by working with Ohio women lawmakers.

Prereq: Not open to students with credit for 385.

3505 Feminist Perspectives on Globalization U 3

Examines how feminist activists and scholars understand and interrogate contemporary globalization.

3530 Women, Environment and Development U 3

Interdisciplinary study of women's roles as environmental stewards and in resource-based development in global context. Attention given to gender differences in environmental and rural practices.

Prereq: Not open to students with credit for ENR 3530. Cross-listed in ENR.

4189.01S Reproductive Rights and Justice U 3

This class takes an interdisciplinary feminist approach to investigating the history and contemporary politics of reproduction. It focuses on both US and global contexts and links the academic investigation to service learning in the Columbus community. Students will work with organizations who seek to further the goals of reproductive justice in policy, activist, legal, and healthcare contexts.

Prereq: 1110.

4194 Group Studies U 3

Special studies not otherwise offered; topic varies; students should consult department course listing.

Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4375 Women and Visual Culture U 3

Analysis of visual images of women in historical, racial, and class contexts.

Prereq: Not open to students with credit for 375.

4401 Asian American Women: Race, Sex, and Representations U 3

Examines the experiences and cultural representations of Asian American women for insight into race, gender, sexuality, and citizenship in U.S. and Asian societies.

GE historical study and diversity soc div in the US course. Cross-listed in History 3612.

4402 Black Women: Representations, Politics, and Power U 3

Examines the ways in which black women and black womanhood are constructed and represented across cultural, social, and political contexts in the U.S., specifically how they are making meaning of their lives.

4403 Gender and Leadership U 3

Focuses on how gender can influence who becomes a leader, the styles of leadership they employ, and how effective leaders can be.

4404 Regulating Bodies: Global Sexual Economies U 3

Regulation of women's bodies and sexual practices in national and international contexts. Topics include: state regulation of reproduction, population control, and migration of sexualized labor.

4405 Race and Sexuality U 3

Placing the concepts of 'race' and 'sexuality' in the historical frameworks of colonialism, slavery, and 19th century science, we will draw on feminist, anti-racist and queer theorists, literature, and film to investigate how race and sexuality intersect in all our lives.

4465 Feminist Political Theory U 3

Examines concepts in feminist political theory including the articulation of feminism, the subjects of feminist theory, the relation of race, class and sexuality to gender experience, and the use of feminist theory to transform conceptions of justice.

Prereq: Not open to students with credit for PolitSc 4465. Cross-listed in PolitSc.

4510 American Women's Movements U 3

An interdisciplinary analysis of the American women's movements, including historical, literary, sociological, and theoretical perspectives.

Prereq: Not open to students with credit for 4510H (510H) or 510. GE diversity soc div in the US course.

4513 Women, Government and Public Policy U 3

An examination of policymaking on gender-related issues and the impact of women in government.

Prereq: Not open to students with credit for 513 or PolitSc 4175 (513). Cross-listed in PolitSc 4175.

4520 Women of Color and Social Activism U 3

Examination of multiple forms of social activism among women of color from various parts of the world concerning local, national, and international issues.

Prereq: Not open to students with credit for 520. GE diversity soc div in the US course.

4524 Women and Work U 3

The social, cultural, and historical factors that influence women's work and the multiple ways work is gendered.

Prereq: Not open to students with credit for 524.

4527 Studies in Gender and Cinema U 3

Analysis of different film types focused on women to help students understand historical scope, theoretical frameworks, and reading strategies for understanding these films; topics vary.

Prereq: Not open to students with 10 qtr or hrs of 527 or FilmStd 527. Repeatable to a maximum of 9 cr hrs.

4540 Women of Color: Art, Literature and Culture U 3

Interdisciplinary feminist study of selected historical and cultural movements through writing by women of color; topics vary by genre and by era.

Prereq: Not open to students with credit for 540.

4560 Chicana Feminism U 3

Provides a general overview of Chicana feminist theory and practice from the early 1970's to the present.

Prereq: Not open to students with credit for 560.

4575 Women's Studies Senior Seminar U 3

Examination of particular contemporary issues which have crucial implications for feminist inquiry (topics vary).

Prereq: 2300 (300). Not open to students with credit for 575.

4597 Gender and Democracy in the Contemporary World U 3

Highlighting perspectives from various contexts across the globe, this course explores issues of gender and democracy in the contemporary world.

Prereq: Not open to students with credit for 597 or PolitSc 4597.03 (597.03). GE cross-disciplinary seminar course. Cross-listed in PolitSc 4597.03.

4845 Gender, Sexuality, and Science U 3

Examination of relations between gender and science; topics include gendering of "science" and "nature," biological theories of sexual inequality, feminist critiques of science and technology.

Prereq: One course in CompStd or WGSSt, or Grad standing, or permission of instructor. Not open to students with credit for 535 or CompStd 4485 (535). Cross-listed in CompStd.

4921 Intersections: Approaches to Race, Gender, Class, and Sexuality U 3

Examines intersections of race, gender, class, and sexuality in various sites within American culture (e.g., legal system, civil rights discourse, social justice movements).

Prereq: One course in CompStd, WGSSt, or AfAmAST. Not open to students with credit for 545, CompStd 4921 (545), or AfAmAST 4921 (545). Cross-listed in CompStd and AfAmAST.

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4998 Capstone Project	U 1 - 5
Open to students completing a capstone project. Should be scheduled in consultation with advisor. Topics vary.	
This course is graded S/U.	
4999 Distinction Thesis	U 1 - 5
Completion of a distinction thesis. Should be scheduled in consultation with advisor. Topics vary.	
This course is graded S/U.	
4999H Honors Thesis	U 1 - 5
Completion of an honors thesis. Should be scheduled in consultation with advisor. Topics vary.	
Prereq: Honors standing. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.	
5193 Individual Studies	U G 1 - 9
Individual studies in women's, gender and sexuality studies as arranged with an instructor or advisor.	
Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.	
5450 Global Human Trafficking: Realities and Representations	U G 3
This course will introduce students to the development of human trafficking as it has been understood and represented by governments, policymakers, the media, and popular culture. The objective of this course is to scrutinize common understandings and representations of trafficking and to consider the advantages and disadvantages of such understandings and representations.	
Prereq: Not open to students with credit for Slavic 5450. Cross-listed in Slavic.	
5620 Topics in Feminist Studies	U G 3
Topics vary by course and instructor.	
Repeatable to a maximum of 6 cr hrs or 6 completions.	
5624 Women and Social Change in Latin America	U G 3
Provides an overview of social change initiatives of women in Latin America and the Caribbean through analysis of women's experiences, values, strategies, and goals.	
Prereq: Not open to students with credit for 624.	
5998 Undergraduate Research in Women's, Gender and Sexuality Studies	U G 1 - 3
Undergraduate research or creative activities in variable topics.	
This course is graded S/U.	
7700 Feminist Inquiry I	G 3
Introduction to women's, gender and sexuality studies as an academic field of study and an orientation to the graduate program, facilities, resources, and people.	
Prereq: Mast, Doct, or Grad minor standing in WGSSt.	
7701 Feminist Inquiry II	G 3
The second of a two semester course examining interdisciplinary feminist approaches to theory and methodology. The course questions divisions between power, knowledge, objects and subjects of analyses, and the practices of academic engagement. Emphasizes the connection between methodology and epistemology in feminist scholarship.	
Sp Sem.	
7702 Feminist Pedagogy	G 3
Assist graduate students in meeting instructional responsibilities and developing necessary skills for college level teaching in women's studies.	
Prereq: Not open to students with credit for 702.	
7710 Theorizing Race, Sexualities, and Social Justice	G 3
Examines theories of difference based on race, ethnicity, nationality, sexuality, and class and the ways difference defines and modifies women's realities.	
Prereq: Not open to students with credit for 710.	
7720 Theorizing Power, Institutions, and Economies	G 3
Examination of feminist theoretical approaches to the material conditions of women's lives and the changing structures of social, economic, and political power.	
Prereq: Not open to students with credit for 720.	
7740 Theorizing Narrative, Culture, and Representation	G 3
Designed to introduce graduate students to the central debates that have characterized feminist theories of representation.	
Prereq: Not open to students with credit for 740.	
7760 Feminist Inquiry: Methods	G 3
An overview of feminist methodological issues and dilemmas and an introduction to a variety of research methods.	
Prereq: Not open to students with credit for 760.	
7780 Theorizing Global and Transnational Feminisms	G 3
Provides a broad comprehension of theoretical aspects of global and transnational feminisms.	
Prereq: Not open to students with credit for 780.	

8163 Practicum in Women's, Gender and Sexuality Studies	G 1 - 3
Credit hours for students participating in an on or off campus practicum, with cooperation with their academic advisor and practicum supervisor. Also for first year graduate students in WGSSt during their second semester of teaching.	
Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.	
8193 Individual Studies	G 1 - 9
Students may register for individual directed study in subjects not covered in regular course work.	
Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.	
8800.01 Topics in Feminist Studies	G 3
Feminist studies on a variety of topics at the graduate level.	
Repeatable to a maximum of 24 cr hrs.	
8800.02 Topics in Feminist Studies	G 3
Feminist studies on a variety of topics at the graduate level.	
Repeatable to a maximum of 24 cr hrs.	
8800.03 Topics in Feminist Studies	G 3
Feminist studies on a variety of topics at the graduate level.	
Repeatable to a maximum of 24 cr hrs.	
8800.04 Topics in Feminist Studies	G 3
Feminist studies on a variety of topics at the graduate level.	
Repeatable to a maximum of 24 cr hrs.	
8800.05 Topics in Feminist Studies	G 3
Feminist studies on a variety of topics at the graduate level.	
Repeatable to a maximum of 24 cr hrs.	
8800.06 Topics in Feminist Studies	G 3
Feminist studies on a variety of topics at the graduate level.	
Repeatable to a maximum of 24 cr hrs.	
8820 Topics in Power, Institutions, and Economies	G 3
Advanced study of variable topics relating to gender, power, and change, both theoretical (especially materialist) and practical.	
Repeatable to a maximum of 6 cr hrs or 6 completions.	
8840 Topics in Narrative, Culture, and Representation	G 3
In-depth investigations of topics and genres central to feminist theories of gender representation, including considerations of aesthetics, subjectivity, intersectionality, narrative, and spectatorship.	
Repeatable to a maximum of 6 cr hrs or 6 completions.	
8860 Topics in Feminist Methodology	G 3
Advanced study of variable topics relating to feminist methodology, methods, and research.	
Repeatable to a maximum of 30 cr hrs or 30 completions.	
8880 Topics in Global and Transnational Feminisms	G 3
Various possible offerings on the subject of transnational feminisms.	
Repeatable to a maximum of 6 cr hrs or 6 completions.	
8896.20 Women in Science	G 1
In this seminar course, participants will read key papers concerning the status of women in the STEM disciplines (Science, technology, engineering, and mathematics).	
Prereq: Grad standing, or permission of instructor. This course is graded S/U. Cross-listed in EEOB.	
8998 Research in Women's, Gender, and Sexuality Studies	G 1 - 12
Graduate research not directed towards dissertation.	
Repeatable. This course is graded S/U.	
8999 Research in Women's, Gender, and Sexuality Studies: Dissertation	G 1 - 3
Research for dissertation purposes only.	
Repeatable to a maximum of 99 cr hrs or 99 completions. This course is graded S/U.	

Yiddish

2193 Independent Studies	U 1 - 4
Independent studies in Yiddish and Ashkenazic studies.	
Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hr or 4 completions. This course is graded S/U.	
2194 Group Studies	U 1 - 4
Investigation of problems in various fields of Yiddish and Ashkenazic studies.	
Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions.	
2241 Yiddish Culture	U 3
Introductory survey of political, social, ideological, and religious trends as reflected in Yiddish culture, especially folklore and literature.	
Prereq: Not open to students with credit for 241 or JewishSt 2241. GE cultures and ideas and diversity global studies course. Cross-listed in JewishSt.	

448 Yiddish

2367 Jewish-American Voices in U.S. Literature **U** **3**

Introduction to Jewish-American literature; development of expository writing and argumentation skills through systematic and critical reflection upon their own country from the perspective of an ethnic community.

Prereq: English 1110 (110) or equiv. Not open to students with credit for 367 or JewishSt 2367. GE writing and comm: level 2 and cultures and ideas course. Cross-listed in JewishSt.

3371 Yiddish Literature in Translation **U** **3**

Reading, analysis, and discussion of representative works and of the development of major movements and genres in Yiddish literature.

Prereq: Not open to students with credit for 371 or JewishSt 3371. GE lit and diversity global studies course. Cross-listed in JewishSt.

3399 Holocaust in Yiddish and Ashkenazic Literature and Film **U** **3**

Reading and analysis of texts, films and music pertaining to the topic of the Holocaust, the genocide perpetrated by Nazi Germany against European Jewry, and its impact on Ashkenazic-Jewish civilization.

Prereq: Not open to students with credit for 399 or German 399. GE lit and diversity global studies course.

4721 Studies in Yiddish Literature **U** **3**

Advanced study of specific literary periods, figures, and/or topics involving extensive reading and discussion of appropriate primary and secondary source materials.

Repeatable to a maximum of 9 cr hrs.

4998 Undergraduate Research **U** **1 - 4**

Investigation of problems in various fields of Yiddish and Ashkenazic studies.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4998H Honors Research **U** **1 - 4**

Investigation of problems in various fields of Yiddish and Ashkenazic studies.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4999 Undergraduate Research Thesis **U** **1 - 4**

Research for undergraduate thesis.

Prereq: Permission of undergraduate thesis advisor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4999H Honors Undergraduate Research Thesis **U** **1 - 4**

Research for Honors undergraduate research thesis.

Prereq: Honors standing, and permission of undergraduate honors thesis advisor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5193 Independent Studies **U G** **1 - 4**

Independent studies in Yiddish and Ashkenazic studies.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5194 Group Studies **U G** **1 - 4**

Investigation of problems in various fields of Yiddish and Ashkenazic studies.

Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.

5797 Study at a Foreign Institution **U G** **1 - 9**

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Prereq: Permission of Yiddish Program Director. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

6999 Master's Thesis **G** **1 - 9**

Master thesis research.

Prereq: Appropriate Grad standing and permission of thesis advisor and Department Chair. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded (S/U).

7721 Studies in Yiddish Literature **G** **3**

Advanced study of specific literary periods, figures, and/or topics involving extensive reading and discussion of appropriate primary and secondary source materials.

Repeatable to a maximum of 9 cr hrs. Specific topics not repeatable for credit.

8999 Dissertation Thesis **G** **1 - 9**

Research for dissertation purposes only.

Prereq: Appropriate Grad standing and permission of thesis advisor and Department Chair. Repeatable. This course is progress graded (S/U).