



UNIVERSITY OF BRIDGEPORT

2022-2023 CATALOG

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Effective September 1, 2022



The University of Bridgeport admits students regardless of sex, race, color, creed, or national or ethnic origin to all the rights, privileges, programs and activities generally accorded or made available to students of the University. The University of Bridgeport does not discriminate on the basis of gender, sexual orientation, age, race, color, national or ethnic origin, creed, political affiliation, or disability in the administration of its educational policies, admissions policies, scholarship and loan programs, and athletic and other University administered programs. The University of Bridgeport is an equal opportunity employer.

The policies and procedures stated in this Catalog, as well as the online version, are subject to change without prior notice. This includes curriculum modifications and academic policies. The Catalog is intended to provide general information and does not create either an express or implied contract with any person. When policies or procedures are modified, the University will endeavor to revise the online version as soon as feasible, and students and faculty should refer to the 2018-2020 catalog on the UB website for most updated information. The University reserves the right in its exclusive discretion to add, modify, delete, deviate from, or amend the provisions of the Catalog at any time.

Catalog of the University of Bridgeport.

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President's Message



Welcome to the University of Bridgeport's 2021-2022 academic year. This year marks a new beginning not only for those of you who are stepping onto campus for the first time, but for all of us.

It's even more poignant that we are starting this journey after one of the most challenging periods any of us have ever faced. The COVID-19 pandemic changed our world as we know it. And while it forced us to physically distance ourselves from each other, in many ways it brought this campus community even closer together.

Furthermore, University of Bridgeport joined Goodwin University and Paier College in May 2021 in a partnership that builds on the legacy of the Purple Knights and creates new opportunities for our students.

One thing that has not changed as we move forward is our dedication

to providing you with career-oriented programs and flexible degree options that prepare you to succeed in life. I promise that at UB we will continue to offer an educational experience grounded in academic excellence, personal responsibility, and commitment to service.

No matter your degree program or area of study, we are here to support you every step of the way on your path to a successful career and an amazing future.

This will be a year of many firsts for all of us. As your new president, I hope you are as excited as I am to start.

A handwritten signature in black ink, appearing to read "Danielle".

Danielle Wilken Ed.D.
President,
University of Bridgeport

Correspondence

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College of Science and Society

COLLEGE OF SCIENCE AND SOCIETY

(203) 576-4271

Fax Number: (203) 576-4051

E-mail: artsandsciences@bridgeport.edu

UB WATERBURY CENTER

(203) 576-4851

E-mail: ubwaterbury@bridgeport.edu

ENGLISH LANGUAGE INSTITUTE

(203) 576-4865

Fax: (203) 576-4861

E-mail: esl@bridgeport.edu

College of Engineering, Business, and Education

SCHOOL OF ENGINEERING

(203) 576-4111

Fax Number: (203) 576-4766

E-mail: engr@bridgeport.edu

ERNEST C. TREFZ SCHOOL OF BUSINESS

(203) 576-4384

Fax: (203) 576-4388

E-mail: mba@bridgeport.edu

SCHOOL OF EDUCATION

(203) 576-4219

Fax: (Dean): (203) 576-4102

E-mail: education@bridgeport.edu

STUDENT DEVELOPMENT

(203) 576-4393

Fax: (203) 576-4394

E-mail: deanofstudents@bridgeport.edu

College of Health Sciences

ACUPUNCTURE INSTITUTE

(203) 576-4122

E-mail: acup@bridgeport.edu

SCHOOL OF CHIROPRACTIC

(203) 576-4279

Fax: (203) 576-4351

E-mail: chiro@bridgeport.edu

FONES SCHOOL OF DENTAL HYGIENE

(203) 576-4138

Fax: (203) 576-4220

E-mail: fones@bridgeport.edu

SCHOOL OF NURSING

(203) 576-2345

Fax: (203) 576-2380

E-mail: sewers@bridgeport.edu

NUTRITION INSTITUTE

(203) 576-4667

E-mail: nutrition@bridgeport.edu

PHYSICIAN ASSISTANT INSTITUTE

(203) 576-2400

Fax (203) 576-2402

pai@bridgeport.edu

Student Support Services

BILLING INFORMATION AND PAYMENTS

Bursar (203) 576-4472

Fax: (203) 576-4581

E-mail: bursar@bridgeport.edu

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(203) 576-4568

Fax: (203) 576-4570

E-mail: finaid@bridgeport.edu

STUDY ABROAD

(203) 576-4699

E-mail: studyabroad@bridgeport.edu

COUNSELING SERVICES

(203) 576-4175

Fax: (203) 576-4200

E-mail: counseling@bridgeport.edu

TRANSCRIPTS AND ACADEMIC RECORDS

Office of the Registrar

(203) 576-4634

Fax: (203) 576-4941

E-mail: registrar@bridgeport.edu

For more information specific to one of the colleges or divisions, you may write or call the appropriate dean or director.

For all other information,
Call (203) 576-4000

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Academic Calendar

Please access the University of Bridgeport website www.bridgeport.edu for the most recent Academic calendars.

Programs of Study

Undergraduate Programs

COLLEGE OF SCIENCE AND SOCIETY

- Biology (B.A., B.S.)
- Criminal Justice and Human Security (B.A.)
 - Comparative Justice
 - Criminology
 - Human Security
- English and Professional Writing (B.S.)
- Fashion Merchandising (A.A., B.S.)
- General Studies (A.A., A.S.)
- General Studies (B.S.)
 - Business Studies
 - Humanities
 - Natural Sciences and Mathematics
 - Science, Engineering and Computer Related Fields
 - Social Sciences
- Graphic Design (B.F.A.)
 - New Media
- Humanities (B.A., B.S.)
- Human Services (B.S.)
- Industrial Design (B.S.)
- Interior Design (B.S.)
- International Political Economy and Diplomacy (B.A.)
 - Americas Studies
 - Asia-Pacific Studies
 - Middle East Studies
 - Peace and Development Studies
- Mathematics (B.A., B.S.)
- Mass Communication (B.A.)
 - Advertising
 - Communication
 - Fashion Journalism
 - International Communication
 - Journalism
 - Public Relations
 - Sports Journalism
- Music (B.Mus.)
 - Music Business
 - Music Education
 - Music Performance
- Performing Arts (B.A.)
- Political Science (B.A., B.S.)
- Psychology (B.S.)
- Social Sciences (B.A.)
 - Criminal Justice
 - History
 - International Studies
 - Political Science
 - Pre-Law
 - Psychology

Sociology

COLLEGE OF ENGINEERING, BUSINESS, AND EDUCATION

SCHOOL OF ENGINEERING

- Computer Engineering (B.S.)
- Computer Science (B.S.)
- Electrical Engineering (B.S.)
- Mechanical Engineering (B.S.)

ERNEST C. TREFZ SCHOOL OF BUSINESS

- Accounting (B.S.)
- Business Administration (A.A., B.S.)
- Business Analytics & Intelligence (BS)
- Finance (B.S.) (B.S.)
- Management & Industrial Relations (B.S.)
- Sport Management (B.S.)
 - eSports concentration

COLLEGE OF HEALTH SCIENCES

- Health Sciences (B.S.)
 - Community Health Education
 - Exercise & Fitness
 - Nutrition
- Medical Laboratory Science (B.S.)
- Medical Laboratory Science (Cert)

FONES SCHOOL OF DENTAL HYGIENE

- Dental Hygiene (A.S., B.S.)
- Dental Hygiene – Online (B.S.)

SCHOOL OF NURSING

- Nursing (B.S.N.)
 - Pre-Nursing Curriculum
 - Traditional BSN
 - Nursing: RN to BSN

Graduate Programs

COLLEGE OF SCIENCE AND SOCIETY

- Biology (M.S., M.A.)
- Counseling (M.S.)
 - Clinical Mental Health Counseling
 - Student Personnel
- Counseling (6th Year)
- Criminal Justice and Human Security (M.A.)
- Global Development and Peace (Grad Certificate)
- Global Development and Peace (M.A.)

Conflict Analysis and Resolution
Global Media and Communication
Global Management
International Political Economy and Development

Global Media and Communication Studies (M.A.)

- Global Communication
- New Media Communication

COLLEGE OF ENGINEERING, BUSINESS, AND EDUCATION

SCHOOL OF ENGINEERING

- Biomedical Engineering (M.S.)
- Computer Engineering (M.S.)
- Computer Science (M.S.)
- Electrical Engineering (M.S.)
- Mechanical Engineering (M.S.)
- Technology Management (M.S.)
 - Bio-Technology Management
 - Global Program & Project Management
 - Information Technology & Analytics Management
- Manufacturing Management
- New Product Development, Management and Commercialization
- Quality Management & Continuous Improvement
- Supply Chain, Logistics and Service Management

Computer Science and Engineering (Ph.D.)
Technology Management (Ph.D.)

ERNEST C. TREFZ SCHOOL OF BUSINESS

- Analytics and Systems (M.S.)
- Business Administration (M.B.A.)
 - Accounting
 - Analytics Intelligence
 - Entrepreneurship
 - Finance
 - Human Resources
 - International Business Management
 - Marketing
- Business Administration – Online (M.B.A.)
- Finance (M.S.)

SCHOOL OF EDUCATION

- Elementary Education (M.S.)
- Secondary Education (M.S.)
- Elementary Education (C.A.S.-6th Year)
- Secondary Education (C.A.S.-6th Year)

Programs of Study

Educational Administration and Supervision
(C.A.S.-6th year)

Remedial Reading and Remedial Language
Arts (C.A.S.-6th Year)

Master in Education (M.Ed.)

Student Affairs Administration and
Leadership (M.Ed.)

Educational Leadership (Ed.D.)

COLLEGE OF HEALTH SCIENCES

Health Sciences (D.H.Sc.)

ACUPUNCTURE INSTITUTE

Master of Science in Acupuncture (M.S.Ac.)

Master of Science in Traditional Chinese
Medicine (M.S.TCM)

Master of Science in Chinese Herbology
(M.S.CH.)

Doctorate in Traditional Chinese Medicine
(D.TCM)

SCHOOL OF CHIROPRACTIC

Doctor of Chiropractic (D.C.)

FONES SCHOOL OF DENTAL HYGIENE

Dental Hygiene – Online (M.S.D.H.)

SCHOOL OF NURSING

Nursing (M.S.N.)

NUTRITION INSTITUTE

Nutrition (M.S.)

PHYSICIAN ASSISTANT INSTITUTE

Physician Assistant (M.S.)

INTRODUCTION

Introduction

Mission

The University of Bridgeport offers career-oriented undergraduate, graduate, and professional degrees and programs for people seeking personal and professional growth. The University promotes academic excellence, personal responsibility and commitment to service. Distinctive curricula in an international, culturally diverse supportive learning environment prepare graduates for life and leadership in an increasingly interconnected world. The University is independent and non-sectarian.

History

The University of Bridgeport was founded in 1927 as the Junior College of Connecticut — the first junior college chartered by any legislature in the northeastern states. The college had as its purpose, in the words of the founders, to develop in students a point of view and a habit of mind that promotes clear thinking and sound judgment in later professional and business experience. Although UB has changed in many ways since then, this commitment to student preparation and community service remains central to its mission.

The Junior College of Connecticut became the University of Bridgeport in 1947, when the State of Connecticut chartered the institution as a four-year university with authority to grant the baccalaureate degree. By that time, the former Barnum estate at Seaside Park had been purchased and growth in students, faculty, programs and buildings was rapid. The College of Arts and Sciences and the College of Business were added at once, and the colleges of Nursing, Education, and Engineering soon after. The Junior College expanded its offerings through a merger with the Weylister Secretarial Junior College of Milford, Connecticut, and through the addition of the Fones School of Dental Hygiene (at its inception in 1949 the only such school in Connecticut and the second in New England).

By 1950, the University had moved from the original Fairfield Avenue location to the present Seaside Park campus, which has since grown from 22 to 53 acres. Enrollment was nearly 3,500 students, including a number of

international students, taught by a faculty of 183 men and women. In 1951 the University awarded its first Master's degree.

In 1953 the University expanded its programs when Arnold College, the oldest co-educational school of physical education in the United States, merged with and was incorporated into the College of Education.

In January 1979 UB inaugurated its first doctoral degree program, Educational Leadership; and in 1991 the College of Chiropractic was established, representing the first affiliation of a chiropractic school with a university in the United States. In 2005 the Ph.D. in Computer Science and Engineering was added and further doctoral and masters level degrees followed.

University of Bridgeport Today

The University today continues its commitment to excellence as it maintains its tradition of responding to the changing needs of society through the liberal arts and its professional programs. Programs are focused so that students receive the kind of personal advising and attention usually found only at small colleges. Furthermore, the University takes full advantage of its location in a progressive urban setting, using regional resources as "living laboratories" to supplement the traditional academic instruction offered on the campus. Through co-operative education programs, students can learn from experience by integrating classroom studies on campus with supervised employment in industrial, service, and government sectors.

The University through its schools and colleges offers a variety of undergraduate and graduate degree programs from associate through doctoral levels. In addition, the University's College of Chiropractic awards the Doctor of Chiropractic degree; College of Naturopathic Medicine awards the Doctor of Naturopathic Medicine and Acupuncture awards the Master of Science in Acupuncture. UB Online has both undergraduate and graduate degree programs entirely online.

The University sees its student body as a valuable resource. Approximately 5,000 students were enrolled in 2012-2013, sixty percent of whom are full-time, coming from 45

states and 86 foreign countries and representing a rich diversity of ethnic and cultural backgrounds.

Faculty

The UB instructional staff consists of 121 full-time faculty, and nearly all hold doctoral or terminal degrees in their fields. The regular faculty is augmented by approximately 370 adjunct faculty.

Faculty honors include Fulbright Scholars, National Science Foundation Fellows, Ford Fellows, National Endowment for the Humanities Fellows, American Council for Learned Societies Scholars, Phi Beta Kappa Scholars, Phi Kappa Phi Scholars and Sigma Xi Scholars.

Accreditations and Memberships

The University of Bridgeport is accredited by the New England Commission of Higher Education (NECHE) formerly New England Association of Schools and Colleges (NEASC).

The University also is accredited by the Connecticut Office of Higher Education. National accreditations of professional programs have been granted by the following accrediting bodies in the areas noted:

Name of Programs — Accreditor

Educator Preparation — The Connecticut State Department of Education under NCATE standards

Engineering — Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET)

Acupuncture — The Accreditation Commission for Acupuncture and Herbal Medicine (ACAHM) (MS-AC, MS-Ac.CH, DAc.TCM)

Chiropractic — Commission on Accreditation of the Council on Chiropractic Education (CCE)

Counseling — The Council for Accreditation of Counseling and Related Educational Programs (CACREP), a specialized accrediting body recognized by the Council for Higher Education Accreditation (CHEA), has granted accreditation to the Clinical Mental Health Counseling MS degree program in the Col-

Introduction

lege of Arts and Sciences at the University of Bridgeport through March 31, 2028.

Business Programs — The Association of Collegiate Business Schools and Programs (ACBSP)

Physician Assistant — Accreditation Review Commission on Education (ARC-PA)

Medical Laboratory Science Programs — National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

Nursing — The Commission on Collegiate Nursing Education (CCNE)

Nutrition — The Accreditation Council for Nutrition Professional Education (ACNPE)

The University holds membership in the American Council on Education, the American Association of University Women, the American Association of Colleges for Teacher Education, the Connecticut Conference of Independent Colleges, the Council of Graduate Schools, the College Board, and the Association of Accredited Naturopathic Medical Colleges, the American Association of Acupuncture and Oriental Medicine, the Connecticut Distance Learning Consortium, the American Society for Engineering Education, the Association of Chiropractic Colleges, the National Association of Independent Colleges and Universities, the National Association of College and University Business Officers, the Commission on Accelerated Programs, New England Association for College Admission, the National Association of College Admissions Counselors, the New England Association of College Admission Counselors, NAFSA (Association of International Educators), the Institute of International Education, and AACRAO - American Association of Collegiate Registrars and Admission Officers.

Campus and Campus History

The University of Bridgeport is located fifty-five miles from New York City. Bridgeport, Connecticut's largest city, borders the 53-acre campus to the north. Seaside Park and the Long Island Sound, with some of the finest sandy beaches between New York and Cape Cod, mark the southern boundary. The unique location of the campus offers a variety of advantages to the University community. The Sound and the Park are settings for studies in marine biology and for the enjoyment

of sun and recreation. The city and county provide opportunities for becoming involved in work-study programs with schools, government and some of the country's largest Fortune 500 and multi-national corporations.

The architectural diversity of UB's dozens of buildings, from stately homes as well as newer structures of modern design, reflects the origins and progress of the university and also embodies its twofold commitment to solidity and change. The entrance to *Marina Dining Hall*, was once the entrance arch to the estate of Phineas Taylor Barnum, who served as Mayor of Bridgeport from 1875 to 1876 and played a crucial role in the city's cultural and economic development. *Bryant Hall*, with its inlaid mosaic entryway and ornately carved banisters and ceilings, was built in 1895 for inventor Waldo C. Bryant. The *Carstensen Hall* is a facsimile of a pavilion at the 1893 Columbian Exposition. It was designed in 1899 for the chemist George Edwards, whose research led to improving the durability of silver plate. Between the campus and Seaside Park is the *Perry Arch*, designed by Henry Bacon, who also designed the Lincoln Memorial in Washington D.C.

The more modern buildings house academic and student life on campus:

The *Carlson Building*, prominently located on the main quad of the University, was built by the generosity of William and Phillips Carlson in 1955. Until the completion of Wahlstrom Library in 1974, Carlson served as the University's first standalone library. Today it houses the School of Education on its first floor and the School of Public and International Affairs on its second floor. The building also houses the language laboratory and the film and video facility.

The *John J. Cox Student Center* provides social, recreational, and extracurricular cultural programs. It has a social hall with a seating capacity of 400; lounges and meeting rooms; a games room and bowling alley; the office of The Scribe (the campus newspaper); the studio and transmitter of WPKN (an independent non-commercial FM radio station); and offices of the Student Congress and student clubs and organizations, as well as offices of the Student Development division.

The *Charles A. Dana Hall* of Science is designed for study and research in biology, chemistry, physics, health sciences, medical laboratory science and geology. There is a 285-seat lecture auditorium, and the unique Science Wall of Honor commemorating thirty-seven of the world's "Immortals of Science." It is also the home of the School of Arts and Sciences.

Eleanor Naylor Dana Hall provides facilities for the Physician Assistant Program and the graduate program in Human Nutrition.

The *UB Health Sciences Center* houses the UB Clinics in Acupuncture, Chiropractic, Dental Hygiene, and Naturopathic care. It is also the home to the Administration for the Acupuncture Institute, School of Naturopathic Medicine and the Fones School of Dental Hygiene.

The *Harvey Hubbell Gymnasium* is the center for intercollegiate sports programs. It seats 2,500 spectators.

Ernest C. Trefz School of Business houses the School of Business and a major computer laboratory.

The *College of Chiropractic Building* has class and conference rooms, offices, a laboratory, and an auditorium seating two hundred people. It is equipped with the modern facilities necessary for the professional programs offered by the Chiropractic faculty.

The *Technology Building* provides the engineering disciplines with the special capabilities and equipment needed for programs in biomedical, mechanical, electrical and computer engineering.

The *Magnus Wahlstrom Library* is the academic and physical heart of the campus. The nine-story building is home to many different types of information resources, collections, and services.

The "Garden Level" houses the Office of the Registrar, The Bursar and Financial Aid, Career Services and UB Online. The Sixth floor houses the Office of Admissions. The Seventh floor houses the Division of Administration and Finance and the Office of the Provost. The Eighth floor houses the Office of the President.

Introduction

The *Wheeler Recreation Center* offers opportunities for students to enjoy recreational sports. Wheeler has a 25-meter pool with one-meter and three-meter diving boards and adjacent steam room and sauna facilities. The field house has a multi-purpose area for tennis, basketball, and volleyball, with a jogging track around the perimeter. In addition, there are courts for racquetball and handball.

Security Services

The University offers a combination of security services that include a Securitas Security Service USA managed public safety force, escort services, and twenty-four-hour monitored access to all residence halls.

LiveSafe

LiveSafe is the personal UB security and information phone application for all students, faculty and staff. It is available for Android and iPhone devices. LiveSafe allows the user to send tips and messages to Campus Security, share locations with friends or family, locate buildings on campus and access emergency services and preparedness information.

The information is easy to obtain directly from a hand-held device by scrolling through the information tabs provided and opening the tab to reach Campus Security while on campus or 911/police when off-campus. Also available is the SafeWalk feature which allows a family member or friend to follow users on the application to ensure the safe arrival to the destination of their choice. If users are looking for a specific building on campus, the LiveSafe application can give walking or driving directions from wherever they are to the university destination address they choose.

Download the free mobile app at <http://links.livesafemobile.com/UBridgeport>. All faculty, staff, and students should select the University of Bridgeport organization when configuring the UB LiveSafe app. For an instructional video on how to use the feature-rich app, go to <https://livesafe.wistia.com/medias/kc0y5i2vup>.

Emergency Broadcast System

The University of Bridgeport has established

an Emergency Broadcast System through LiveSafe. LiveSafe allows the University of Bridgeport to transmit messages to users, informing them of an event that may have a direct impact on health or safety.

Social and Cultural Opportunities

Cultural events at the University of Bridgeport offer entertainment of high quality. Art exhibits, theatre productions, dance ensembles, music ensembles, classic cinema, lectures and concerts by UB groups, including the Jazz Ensemble are regularly scheduled.

Student organizations of the University plan a wide range of social programs from movies to dances, rock concerts, international festivals, coffee houses, lectures and comedy acts.

The University's schedule of events in the fine and performing arts is complemented by its location in the center of Fairfield County, one of the country's most desirable recreational and cultural areas. New England village greens and historic communities are within easy reach of the campus. The Southern Connecticut area is home to the Westport Country Playhouse and New Haven's Long Wharf and Yale Repertory theatres. The cultural resources of New York and Boston are within convenient traveling distance by car, bus, or train.

International Activities and Study Abroad

The University of Bridgeport offers a wide range of opportunities for students to learn about other cultures and to understand American culture. Students from approximately 80 countries attend the University. Through formal events such as the annual International Festival sponsored by the Office of International Affairs and the International Relations Club, and through informal contacts in and out of class, students from different cultures are able to meet and get to know one another.

Study Abroad

There is opportunity for foreign study and travel and these opportunities are coordinated through the Office of Overseas Study. Students may choose to spend a summer, a semester, or an entire academic year abroad. They may receive credit for work done at a

foreign university provided they follow the usual procedure of obtaining permission to take courses off-campus. In the past, students have pursued such programs at the University of Paris-Sorbonne, the Catholic University of the West, Laval University, The Institute for American Universities in Aix-en-Provence, France, The American College in Paris, University of Madrid, University of Valencia, the Young Judea Year Course in Israel, and The London School of Economics. Students interested in such programs should consult with their department chair.

More recently students have also pursued study abroad at the American University of Dubai, at Hanseo, Yonsei and Sun Moon Universities in Korea, at the International Christian University in Japan, at Fudan University and at Sichuan University Jinjiang College in China and at the Chinese Cultural University in Taiwan.

Computing Facilities

Academic and Campus Technology Services (ACTS) provides computing, information, and networks services to the entire campus community.

A campus-wide fiber optic network for data communication provides data connectivity for students, faculty, and staff. A state-of-the-art digital network system offers students, faculty, and staff access to all on-campus computing resources, as well as remote computing resources via the Internet.

ACTS maintains the University-wide computing infrastructure for academic and administrative use, utilizing state-of-the-art computing and network solutions. All central and distributed computers and about 1000 workstations and other devices are connected to the campus network, providing each user with access to computing resources. Every faculty and staff member has a PC or laptop connected to the campus network. Phone, cable, and high speed data connectivity is extended to all residence hall rooms.

In addition to numerous departmental computing labs, ACTS manages public student labs, located in Mandeville Hall, Engineering and Technology Hall, and Wahlstrom Library Learning Commons. All computers support

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general purpose applications, such as word processing, spreadsheets, graphics, and data base management systems. The Waterbury center has a general computer lab to support those students attending classes at that facility.

The University's Portal (myub.bridgeport.edu) provides access to email and other student-designated resources. All students have free Web space and additional space for storing critical data. Additional facilities permit students to review schedules and perform grade-lookup.

ACTS also includes wireless access in all study lounges on each floor of each residence hall. General wireless areas include the Wahlstrom Library as well as a popular student gathering location in Knight's End Café.

ACTS provides support for setting up student UB accounts and wireless issues. Students who need assistance can go to the Print/Copy Center on the first floor of the library for help. Support is available during the hours of operation of the library.

Admissions

Dean of Admissions: Jeffrey Mon

Office of Admissions
126 Park Avenue
Bridgeport, CT 06604

203-576-4552 • 1-800-EXCEL-UB
Fax: 203-576-4941
E-mail: admit@bridgeport.edu
Internet Home Page:
<http://www.bridgeport.edu>

Admissions Policy

All University of Bridgeport applications are reviewed and evaluated on an individual basis. The University of Bridgeport admits qualified students regardless of race, color, sex, religion, age, national and ethnic origins or handicap. Applications are accepted and reviewed on a rolling basis throughout the year.

Application

Domestic and International students applying as new first time freshmen or transfer students can do so online at [bridgeport.edu/apply](http://bridgeport.edu/). We accept the Common Application as well as our internal UB application. Students interested in applying as a visiting or non-degree student may do so at [bridgeport.edu/non-degree](http://bridgeport.edu/). There is no application fee for either application.

Application materials can be submitted electronically directly from your prior High School, College or University; Uploaded through your application portal; Emailed to admit@bridgeport.edu or mailed to Office of Admissions, 126 Park Avenue, Bridgeport, Connecticut 06604.

For further information, please call (203) 576-4552 or toll free 1-800-EXCEL-UB (392-3582) or email admit@bridgeport.edu.

All interested students are encouraged to visit the University of Bridgeport to meet with an Admissions Officer and tour the campus.

Undergraduate Applicants

FIRST YEAR STUDENTS

Freshmen candidates must submit:

A. An application for admission

B. An official high school transcript or GED (General Equivalency Diploma)

C. The University of Bridgeport is a test optional institution. Students have the option of submitting SAT/ACT scores or a 250-500 word personal statement on the topic of their choice.

D. FAFSA (if applying for financial aid)

The University of Bridgeport reserves the right to waive the need for certain documents or to request additional documentation.

HOME-SCHOoled APPLICANTS

The University of Bridgeport welcomes applications from individuals who have completed all or part of their education in a homeschooled environment. Below are the application requirements for home-schooled students:

- Academic coursework prerequisites
- Level of achievement (grade-point average)
- Standardized tests (SAT or ACT)
- Proof of graduation: Final high school transcript with a school administrator signature and indication of a graduation date

Since some students in homeschool programs may not follow a traditional high school curriculum, we may request further detailed documentation of their high school coursework and evaluations of progress as needed.

TRANSFER CANDIDATES MUST SUBMIT

- A. An Application for admission
- B. Proof of high school completion or G.E.D. (General Equivalency Diploma).
- C. An official copy of all college transcripts from each post-secondary institution previously attended. An applicant who fails to indicate attendance at a previous institution at the time of application may forfeit eligibility for admission or transfer credit.
- D. FAFSA (if applying for financial aid)

The University of Bridgeport reserves the right to waive the need for certain documents or to request additional documentation.

Transfer credit is awarded only for courses in which a grade of "C" or better is earned.

Additional application materials are required for students transferring into the Dental Hygiene and Nursing. Please see their respective sections below for details.

The status of any applicant admitted before all final, official transcripts are received will be reevaluated upon receipt of the final transcript. Transfer applicants are urged to apply well in advance of the opening date of the term in which they plan to enter. This will enable the student to receive a timely evaluation of their transfer credit and appropriate academic advisement and program planning.

Students are required to complete their last thirty semester hours at the University of Bridgeport and meet course requirements as described in each program to be eligible for a degree. A maximum of 66 credits may be awarded from two-year colleges and 90 credits from accredited four-year institutions. Transfer credit is awarded on a course by course basis.

Articulation Agreements

The University has articulation agreements with the following institutions:

- Capital Community College
- Gateway Community College
- Housatonic Community College
- Middlesex Community College
- Naugatuck Community College
- Northwestern Community College
- Norwalk Community College
- Tunxis Community College
- Westchester Community College

Academic Credit from Non-University Sponsored Instruction

The University of Bridgeport participates in the following testing programs for which students may receive advanced

Admissions

standing upon admission:

- Advanced Placement Examinations (AP)
- College Level Examination Program (CLEP)
- International Baccalaureate Program (IB)

Undergraduate students may earn up to 30 semester hours of credit through these programs. Credits earned through these may not be used to satisfy the minimum University 30-hour residency requirement. Credits transferred in are not included in the student's credit hours earned at the University of Bridgeport and are not computed in the student's quality point ratio at the University. These credits are not considered in the total number of UB hours used to determine eligibility for graduation honors.

Scores needed to earn UB Credit for theses exams can be found at: <https://www.bridgeport.edu/admissions/undergraduate/admissions-requirements/college-credit>.

STANDARDIZED TESTS—COLLEGE LEVEL EQUIVALENT PROFICIENCY (CLEP)

UB accepts up to thirty (30) credit hours from the credit recommendations of the College Board's College Level Equivalent Proficiency (CLEP) exam program. Undergraduate students may earn up to 30 semester hours of credit (one year's studies) by demonstrating subject area competence through standardized testing. CLEP credit may not be used to satisfy the minimum University 30-hour residency requirement. CLEP credit is not included in the student's credit hours earned at the University of Bridgeport and is not computed in the student's quality point ratio at the University. CLEP credit is not considered in the total number of UB hours used to determine eligibility for graduation honors. Information on subject matter and testing procedure is available at the College Board at: clep.collegeboard.org.

NATIONALLY RECOGNIZED EVALUATIONS FOR CREDIT RECOMMENDATIONS

UB accepts evaluations of non-university sponsored instruction as part of a student

applicant's transfer evaluation. UB accepts evaluations of non-university sponsored instruction from the following nationally recognized institutions:

- American Council on Education College Credit Recommendation Service: ACE CREDIT recommends academic credit for formal courses or examinations offered by various organizations, from businesses and unions to the government and military.
 - ACE CREDIT includes evaluations on military credits, DSST exams, ALEKS Exams (McGraw-Hill) and many more non-university organizations.
 - The ACTFL Oral Proficiency Interview (OPI), the ACTFL Writing Proficiency (WPT), the ACTFL Reading Proficiency Test (RPT), the ACTFL Listening Proficiency Test (LTP) and the ACTFL Oral Proficiency Interview Computer Test (OPIc) are recommended for college credit by the American Council on Education (ACE).

- National College Credit Recommendation Service (formerly National PONSI), under the auspices of the State University of New York, Board of Regents, evaluates training and education programs offered outside of the traditional college classroom setting and recommends them for college credit equivalencies. National CCRS coordinates teams of college faculty evaluators and subject matter experts to conduct extensive reviews of education and training programs offered by corporations, unions, religious organizations and proprietary schools.

CREDIT FOR LIFE WORK EXPERIENCE PROGRAM (CLWEP)

Some students acquire mastery over course subject matter through prior work or training experience. UB values the university-level knowledge that student's may have acquired outside the traditional university classroom.

In the CLWEP portfolio assessment, students demonstrate that what they already know is equivalent to what they would have learned in an equivalent college course. A student may have acquired this knowledge through past work, independent reading and study,

training programs or in-service courses, volunteer service, cultural or artistic pursuits, hobbies and recreational pastimes, community or religious activities, organizational memberships, adult education, non-credit courses, study abroad, military training not evaluated for credit by ACE, or other experiences. A portfolio enables the student to identify and articulate this knowledge, and potentially earn credit for it.

Students learn the process of identifying areas of course-equivalent learning and portfolio development skills through the CLWEP guidelines and assessment plan.

CLWEP credit may not be used to satisfy the minimum University 30-hour residency requirement. CLWEP credit is included in the student's semester hours earned at the University and also in the total number of UB hours used to determine eligibility for graduation honors. However, such credit is not computed in the student's quality point ratio at the University.

Special Instructions for Specific Majors

DENTAL HYGIENE

Students applying as freshman will be considered for entrance into a pre-dental hygiene or pre-nursing curriculum to complete prerequisite courses. Students who successfully complete the freshman courses will enter the clinical program in their sophomore year through the Fones School of Dental Hygiene.

Transfer Students: A student who has attempted 12 or more semester hours at a regionally accredited institution is considered a transfer applicant.

Below are the application materials required to transfer into the Dental Hygiene program:

- Completed University of Bridgeport Application
- Completed Fones School of Dental Hygiene Supplemental Application
- Transcripts from ALL Colleges/ Universities Previously Attended
- Two Completed Recommendation

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Forms (one from a professor)

- Personal Essay of Approximately 500 Words
- Proof of High School Graduation

The following courses or course equivalents as determined by UB Admissions transfer credit evaluation must be completed:

- Academic Writing - 3 credits
- Intermediate Algebra - 3 credits
- College Level Chemistry w/lab - 4 credits
- Anatomy & Physiology I w/lab - 4 credits
- Anatomy & Physiology II w/lab - 4 credits
- Microbiology w/lab - 4 credits

A minimum grade of C or higher in the prerequisite courses with a combined GPA of 3.0 is required; an overall GPA of a 2.7 or above is required. Students without science prerequisites may begin at the Fones School in a pre-dental hygiene curriculum upon recommendation of the Director. Clinical students must begin in the fall semester of an academic year and attend full time.

NURSING

Students applying as freshman will be considered for entrance into a pre-nursing curriculum to complete prerequisite courses. Students who successfully complete the prerequisite courses will enter the clinical program through the School of Nursing.

Transfer Students: A student who has attempted 12 or more semester hours at a regionally accredited institution is considered a transfer applicant.

Below are the application materials required to transfer into the Dental Hygiene program:

- Completed University of Bridgeport Application
- School of Nursing Supplemental Application
- Transcripts from ALL Colleges/ Universities Previously Attended
- ATI Test of Essential Academic Skills (ATI TEAS)

- Two Completed Recommendation Forms
- Personal Essay of Approximately 500 Words

- Proof of High School Graduation

The following courses or course equivalents as determined by UB Admissions transfer credit evaluation must be completed:

- Academic Writing - 3 credits
- Intermediate Algebra - 3 credits
- College Level Chemistry w/lab - 4 credits
- Anatomy & Physiology I w/lab - 4 credits
- Anatomy & Physiology II w/lab - 4 credits
- Introduction to College Algebra and Statistics - 3 credits
- Public Communication - 3 credits
- Introduction to Psychology - 3 credits
- Lifespan Development - 3 credits
- Principles of Sociology - 3 credits
- Freshman Seminar / Liberal Arts Elective - 3 credits

Admission to nursing programs requires satisfactory completion of coursework in the sciences and other areas. To ensure that transfer credit and courses taken at UB fulfill those requirements, students will select courses with the help of an advisor. A minimum grade of C or higher in all pre-requisite courses and a GPA of a 2.5 or above is required. Students without science prerequisites may begin the Health Sciences curriculum upon recommendation of the Dean.

NON-DEGREE APPLICANTS

A Non-Degree Student is permitted to take courses for credit on a part-time basis, as a non-degree candidate, as long as the student has met the prerequisites for the course.

A Non-Degree Student may become a matriculated student if he or she meets the appropriate requirements for admission. However, a Non-Degree Student is subject

to any changes in graduation requirements instituted prior to actual matriculation. Candidates for matriculation may attend as Non-Degree Students up to the completion of 12 credits. A maximum of 12 credits taken as a non-matriculating student may be applied to a student's requirements for graduation, with program approval.

ATHLETICS

The University of Bridgeport offers a full program of NCAA Division II intercollegiate sports, including basketball, baseball, cross-country, and soccer for men, and basketball, softball, cross-country, gymnastics, volleyball, lacrosse and soccer for women. Athletic scholarships are available. All students who wish to participate in intercollegiate athletics are required to register with the NCAA Initial-Eligibility Clearinghouse. For more information and a Clearinghouse registration form, please contact your high school guidance office or the UB Athletic Department at (203) 576-4735.

International Applicants

The University of Bridgeport enrolls students from more than 80 nations. To be considered for admission, students must complete an online application at <http://www.bridgeport.edu/apply>.

INTERNATIONAL CANDIDATES MUST SUBMIT:

- Completed University of Bridgeport Application
- An official transcripts of all previous academic work along with a literal English translation
- Proof of English Language Proficiency
- Other application materials as defined by the academic program of interest
- Documentation that sufficient funding is available to meet the University's tuition and fees and living expenses

English Language Requirements

Those whose native language is not English are also required to show English language proficiency. Proof of English Proficiency by

Admissions

exam must be complete within 2 years of application submission. You can demonstrate proof of English Language competency by meeting any one of the criteria listed below:

Graduate Requirements

- TOEFL - 80 (IBT)
- IELTS - 6.0
- Duolingo - 95
- PTE - 58
- EIKEN - Grade Pre-1
- WAEC, WASSE, CXC, etc. on English Language exam - "C"
- Proof of completion of Advanced Level at the University's English Language Institute (ELI)
- An official letter certifying completion of ELS (English Language Services) - Level 112

Undergraduate Requirements

- TOEFL - 75 (IBT)
- IELTS - 6.0
- Duolingo - 90
- PTE - 58
- EIKEN - Grade 2A
- WAEC, WASSE, CXC, etc. on English Language exam - "C"
- Proof of completion of Advanced Level at the University's English Language Institute (ELI)
- An official letter certifying completion of ELS (English Language Services) - Level 112
- SAT Evidence-Based Reading and Writing Score - 450
- ACT Exam English Section - 19
- International Baccalaureate (IB) program "English A" Higher Level examination - 4
- Graduation from an accredited American high school
- One Semester of College English Composition from an accredited American university - "C"

You must demonstrate English language competency in one of the ways listed above. If you don't demonstrate English language competency in one of these ways prior to registration, you will be given the University English Language Assessment Battery (ELAB) test upon arrival. If you pass at a satisfactory level, you may begin classes.

Graduate Applicants

Applicants to the University of Bridgeport Masters programs are required to have an undergraduate degree from an accredited institution or from a recognized international university with the exception of students applying to select programs within the Acupuncture Institute and the Doctor of Chiropractic degree. Applicants to the Doctoral programs are required to have a Masters degree. Official transcripts of all previous course work should be sent directly to the Office of Graduate Admissions.

Admission decisions are primarily based on the degree required for the academic program for which the student is applying to. Applicants may send unofficial transcripts of their most updated coursework and/or degrees. A prospective student who is currently completing undergraduate study should submit an official transcript complete to the date of application. In most cases, an admission decision will be made on the basis of a partial transcript, contingent upon completion of the admission requirements. Course registration is permitted with unofficial transcripts on file, but an admissions hold will be placed on the student's account to identify documents are outstanding. Official copies for each institution attended must be received by the Office of Admissions prior to registering for the second semester.

Generally, students may be admitted for any term - fall, spring or summer. Should a student be unable to enter the university during the term for which admission is granted, the student must submit a new updated application for the start term they hope to enroll in.

Please refer to the individual graduate program for admissions requirements specific to that major.

GRADUATE TRANSFER CREDITS

The Dean of the individual Colleges/Schools/Institutes may allow up to six semester hours (eight hours in the case of laboratory courses) of graduate transfer credit from a regionally accredited college. The courses should have been completed recently with a grade of "B" or better and be comparable to UB's Graduate courses. Specific colleges of the university and certain programs have additional requirements for admission, details of which are included in the individual program listing in this catalog.

GRADUATE ADMISSION INTERVIEWS

Select graduate programs require an interview as part of the admissions process. Please refer to the individual program listing in this catalog.

SCHOLARSHIPS

The University offers scholarships for select graduate programs based on a student's GPA and submitted transcripts from all schools attended. Students are automatically considered for a scholarship as part of the admissions process.

Interviews, Information Sessions and Campus Tours

We encourage applicants to meet with a member of the Graduate Admissions staff and their respective academic department to discuss academic and career goals as well as the particular concerns of admission and financial assistance. The Office of Admissions is located on the 6th floor of the Magnus Wahlstrom Library.

For more information about interviews, information sessions, and campus tours please contact the Office of Graduate Admission at (203) 576-4552 or toll-free at 1-800-EXCEL-UB, gradadmissions@bridgeport.edu, or visit the website at www.bridgeport.edu.

Scholarships

The University offers scholarships to many Undergraduate and Graduate students who have a successful high school or college record. UB is known for its affordable private school education. The University believes

Admissions

that a student's achievement should be recognized and rewarded. With this goal in mind, UB's unique scholarship program rewards academic excellence, community service, leadership and special talent.

Tuition, Fees and Other Expenses

Please see website for current academic year for tuition, fees and other expenses.

UNIVERSITY OF BRIDGEPORT STUDENT ACCOUNT PAYMENT POLICY

To best serve you and your financial needs as a student at the University of Bridgeport, it is important that you become familiar with the university's account payment policy. We have provided the information below to help you better understand the terms of your payment obligations. Please review this document carefully. If you have any additional questions, please contact the Student Financial Services Office at 203.576.4568.

University of Bridgeport Student Enrollment and Financial Responsibility Policy

PAYMENT OF CHARGES

Students are responsible for all charges incurred upon registration. Charges generally include tuition, fees, housing meal plans and other miscellaneous costs. Students must make acceptable payment arrangements no later than 2 weeks prior to the start of classes. For late registrants, payment is due upon registration. Acceptable payment arrangements are as follows:

- Payment in full
- Approved financial aid covering all charges, including loans.
- Participation in an approved company or organization reimbursement payment agreement
- Enrollment in an approved payment plan

A student who complies with the above shall be considered in good financial standing, as long as all terms and conditions are met throughout each semester. All payment arrangements must be satisfied in full to receive grades, transcripts, diplomas and receive future services.

DELINQUENT ACCOUNTS/ COLLECTION

In order to continue in the classes for which a student has registered, a student with a delinquent balance must make immediate pay-

ment in full or agree to otherwise make acceptable payment arrangements. If a student fails to timely satisfy the terms of his or her financial responsibility agreement, the University may in its absolute discretion cancel registration or refer delinquent past due balances to an outside collection agency, where additional fees and penalties will be charged to the account, as permitted by law.

HOLDS

Holds will be placed on students' accounts for students who are not meeting their payment plan agreements and/or have any remaining balance due on their accounts. The hold will prevent the student from; registering for additional terms, adding or dropping courses, accessing their grades, requesting transcripts, receiving their diplomas and having access to other University services. The hold will not be lifted until the balance is paid in full.

LATE PAYMENT PLAN CHARGES

A late fee of \$75 will be assessed each month to any past due account. The fee will charged every 30 days until balance is paid in full.

COMMUNICATION

Method of Communication: UBMail (powered by Google) is the official method of communication with students. Students are responsible for reading the e-mails sent by the University of Bridgeport.

Billing statements are emailed to students at least 4 weeks before the beginning of the term if the student has preregistered. Students who register late shall request a bill at the time of registration.

Reminder statements are emailed every 2 weeks. Notices informing students of holds or late fees will be emailed to students.

Students shall access their UB Portal on a regular basis to determine if they have a balance, a hold or have had late fees added to their accounts.

Students are responsible for all charges and failure to review or receive a billing statement does not excuse a student's responsibility to pay.

For the current year's tuition and fees please see UB website: <http://www.bridgeport.edu/>

[finaid/tuition-and-fees/](#)

PAYMENT BY CASH, CHECK, OR MONEY ORDER

Payments by cash, check or money order can be made directly to the Student Financial Services Office located on the Garden Level of Wahlstrom Library, or payments can be mailed to the *Student Financial Services Office, University of Bridgeport, 126 Park Avenue, Bridgeport, CT 06604*. If you pay by check or money order, please record your University of Bridgeport Student I.D. number on the check or money order.

PAYMENT BY WIRE TRANSFER

International payments can be wired to the University through Flywire at www.flywire.com. If assistance is needed, student can contact Flywire's support team via their web page or Student Financial Services at 203-576-4568 or email SFS@bridgeport.edu.

PAYMENT BY CREDIT CARD

Students may pay their tuition bill using VISA, MasterCard, American Express or Discover Card. Payments can be made in person at the UB Student Financial Services Office located on the Garden Level of Wahlstrom Library or at the Stamford or Waterbury centers. To make a credit card payment by phone, call 203-576-4568. For additional information you may email SFS@bridgeport.edu.

MYUBPORTAL ONLINE PAYMENT

The University of Bridgeport has an online payment option for WebAdvisor or the UB Portal. Students may pay their tuition bill using VISA, MasterCard, American Express or Discover Card.

To make payments follow these steps:

- Log in to MyUBPortal on www.bridgeport.edu
- Select View Account and Make Payment under Financial Information
- Sign in again
- Review account activity
- Select Make Payment

PAYMENT ALTERNATIVES

The University of Bridgeport understands

Tuition, Fees and Other Expenses

that families look for as many options as possible to make financing an education more convenient and affordable. Students may sign up for the University Payment plan through their UB Portal.

MONTHLY PAYMENT PLANS

Students may sign up for the payment plan via the UB Portal. Under the Financial Information heading, select Enroll in payment plan.

Fall Plans available:

5 pay plan – enroll by July 1st

4 pay plan – enroll by August 1st

Spring Plans:

5 pay plan- enroll by Dec 1st

4 pay plan- enroll by Jan 1st

Summer Plans:

3 pay plan- enroll by May 1st

DIRECT PAYMENT OPTION

Students eligible for an external scholarship or for whom an employer pays their tuition may qualify for the deferment/direct payment option. Consult your sponsor to determine if a direct billing agreement has been established with the University of Bridgeport. If one has been established, you need a letter, on company letterhead, from your sponsor that includes your name, eligible program, maximum tuition amount where the bill should be sent. The letter should be forwarded to the **Office of Student Financial Services, at 126 Park Avenue, Bridgeport, CT 06604** or faxed a (203) 576-4570.

Students are responsible for obtaining a direct billing option letter from their sponsor for the initial registration and ensure that it is received at the Office of Student Financial Services by the tuition due date. Students who are unable to obtain a deferment payment/direct billing letter by the payment deadline must pay their tuition prior to the start of the semester. Students must pay any fees not covered by the employer's direct payment plan at time of registration.

Should employment cease with sponsor or conditions of sponsorship are not met, the student is responsible for all tuitions and

fees. A financial obligation continues to exist when using a direct billing option. Therefore, a transcript hold will be applied to the student record if any part of the balance is not covered by the direct billing agreement. Official transcripts will not be released until all University of Bridgeport financial obligations have been satisfied.

FINANCIAL AID DEFERMENT WITHOUT FEE (DOMESTIC STUDENTS)

Domestic students who receive Financial Aid should review their billing statements to ensure that correct aid is being deducted from the costs., If aid is missing students must contact the Office of Student Financial Services at 203-576-4568 or email SFS@Bridgeport.edu for assistance in determining which action is necessary for the financial aid to be credited to their account. Please note **work-study awards are not deducted** from the amount due since the student will be eligible to earn up to this amount through student employment. Federal Regulations require the University to issue a paycheck directly to the student for hours worked.

FEDERAL DIRECT LOANS:

Loan origination fees will reduce the amount of loan funds received. These fees (normally between 1% and 3%) should be deducted from the amount shown in the award letter before deducting the amount of these funds from the final bill.

ALTERNATIVE LOANS

Alternative loans are private loans offered through a lending institution and are not a part of federal student aid programs. Interest rate and repayment provisions vary from lender to lender. It is the responsibility of the student to research and understand the implications of borrowing an alternative loan. Loans must be approved by lender prior to the tuition payment due date.

Institutional Undergraduate/ Graduate Refund Policy

TUITION REFUNDS

- Proper withdrawal is granted upon presentation of the approved and signed

Withdrawal Form to the Registrar's Office at 126 Park Avenue, Wahlstrom Library Garden Level, Bridgeport, CT 06604

- Note that withdrawal from individual classes or the University may affect financial aid and other eligibility.
- Refunds are based on the schedule below and determined by the date of notification to the Office of the Registrar, not the date of last class attended.

WITHDRAWAL POLICY SCHEDULE

Refund of tuition and fees is based on the length of each course. Students who are enrolled in courses of different lengths within a term, will have each course evaluated for tuition and fee liability if they choose to withdraw. Where noted, fees are incurred as of first day of classes. The liability percentages are for tuition charges plus the full fees.

5 Week/Summer Classes

Week	Percentage Due
First Day	All Fees
Day 2 and first week	20%
Week 2	40%
Week 3	60%
Week 4	100%

7 or 8 Week Classes

Week	Percentage Due
Week 1	All Fees
Week 2	15%
Week 3	30%
Week 4	45%
Week 5	60%
Week 6	100%

12 Week Classes

Week	Percentage Due
Week 1	All Fees
Week 2	10%
Week 3	20%
Week 4	30%
Week 5	40%
Week 6	50%
Week 7	60%
Week 8	100%

15 Week Classes

Week	Percentage Due
Week 1	\$200 Processing Fee
Week 2	All Fees
Week 3	5%

Tuition, Fees and Other Expenses

Week 4	10%
Week 5	20%
Week 6	30%
Week 7	40%
Week 8	50%
Week 9	60%
Week 10	100%

18 Week Classes

Week	Percentage Due
Week 1	\$200 Processing Fee
Week 2	All Fees
Week 3	10%
Week 4	17%
Week 5	24%
Week 6	31%
Week 7	38%
Week 8	45%
Week 9	52%
Week 10	60%
Week 11	100%

20 Week Classes

Week	Percentage Due
Week 1	\$200 Processing Fee
Week 2	All Fees
Week 3	6%
Week 4	12%
Week 5	18%
Week 6	24%
Week 7	30%
Week 8	36%
Week 9	42%
Week 10	48%
Week 11	54%
Week 12	60%
Week 13	100%

English Language Institute (ELI)

7 Week Classes

Week	Percentage Due
Week 1	All Fees
Week 2	30%
Week 3	45%
Week 4	60%
Week 5	100%

ADDITIONAL REFUND INFORMATION

- If a student withdraws prior to the start of the semester, all fees will be refunded.
- All student fees are for a full semester and are non-refundable in accordance with the refund schedule.

- Room and board charges are for a full semester and are non-refundable.
- If the course is cancelled, all fees are refunded.
- Admissions/Tuition Deposits and Room Deposits are non-refundable.
- PAL deposits are refunded upon return of PAL to Security upon graduation or withdrawal from UB.

Any outstanding balance on a student's account is deducted from the tuition credit. Any credits resulting in a refund to the students account as authorized by the Office of Student Financial Services, will require approximately three weeks for processing. Please see Federal Financial Aid Return of Title IM below to understand how your financial aid will affect your refund.

The Office of Student Financial Services does not provide check cashing services for students. All banking services required by students must be personally arranged with local banking facilities. The University does have an ATM banking machine located on the Ground Floor in Wahlstrom and in the Security Office (Norseman Hall).

FEDERAL FINANCIAL AID RETURN OF TITLE IV

A statutory pro-rate refund applies to any student who is a recipient of federal financial aid funding (Title IV) and leaves the school on or before the 60% point in the enrollment period for which he or she has been charged. After the 60% point in the enrollment period, a student has earned 100% of the SFA program funds. Students may contact the Office of Student Financial Services (203-576-4568, sfs@bridgeport.edu) for additional information on the Federal Title IV regulations regarding student refunds.

All students who receive federal financial aid and withdraw from the University are subject to a Federal Title IV return of funds policy. Federal Title IV refund will be made in this order:

1. Federal Direct Unsubsidized Loan
2. Federal Direct Subsidized Loan
3. Federal Direct PLUS Loan

4. Federal Pell Grant
5. Federal Supplemental Educational Opportunity Grant
6. Other Title IV aid programs
7. Other federal sources of aid
8. Other state, private, or institutional aid
9. The Student

VETERAN'S READJUSTMENT ACT

As mandated by Title 38, USC 3679 of the Veteran's Re-adjustment Act, the University of Bridgeport will not impose any penalty or deny access to educational resources and facilities for VA beneficiaries, under Chapters 31 and 33 of the GI Bill®, while awaiting VA benefit payment. This applies only to the percentage of the veteran's eligibility identified on the VA student's Certificate of Eligibility. The University may impose fines for the portion of tuition and fees not covered by the GI Bill®.

HEALTH AND ACCIDENT INSURANCE

(Mandatory for all full-time undergraduate, international and residential students)

UB insurance coverage is mandated for all full-time undergraduate, international, Physician's Assistant and any residential students. Domestic students who presently have medical insurance coverage may complete an online waiver. The policy must meet minimum standards for basic medical/surgical expenses. Waivers must be completed by September 15th each year and by February 15th for spring admits. Policy commences August 1 for 12 months.

For additional information on the insurance plan, please refer to Student Health Information in the Student Affairs section of the catalog.

PROPERTY INSURANCE

The University does not assume responsibility for the loss of personal property of students either on or off the campus. It is recommended that students protect themselves against such losses by consulting with their own (or with their parent's) insurance agent in regard to coverage provided by existing policies, if any; or by purchasing pri-

Tuition, Fees and Other Expenses

vate property insurance. Information may be obtained at the Residential Life Office, (203) 576-4228, or email reslife@bridgeport.edu.

residential halls to the resident students. A fee will be charged for replacement of lost, stolen, misplaced or damaged ID cards.

ADMINISTRATIVE FEE FOR STUDENTS WHO RECEIVE A UNIVERSITY OF BRIDGEPORT I-20 AND USE IT TO OBTAIN AN F-1 VISA

Upon receipt of the I-20, all new incoming students will be assessed a \$2,500USD Administrative Fee. This administrative fee will be applied to the student's first semester tuition and fee bill and is non-refundable. Payments can be made at: Bridgeport.flywire.com, in person at our Bursar's office or by phone at: 203-576-4568 with a credit card. Students' failure to pay the Administration Fee upon receipt of F1 visa will be subject to termination.

BOOKSTORE

Acquiring your textbooks and school supplies is now even easier. Books may be acquired at the On-Campus Bookstore located at John J. Cox Student Center or via the Internet at www.bridgeport.edu/bookstore. In addition to the required course texts, the On-Campus Bookstore carries supplies, materials, UB memorabilia and much more. For additional information contact the Bookstore at (203) 576-4804, fax (203) 576-4802, or email bookstore@bridgeport.edu.

Bookstore's normal hours of operation are*:

Monday-Friday: 8:30 a.m. to 7:00 p.m.

Saturday-Sunday: 10:00 a.m. to 5:00 p.m.

* Rush and summer hours change

CHANGE OF ADDRESS

A student must complete a Change-of-Address form in the Office of the Registrar or through the UB Portal whenever a change is made in his or her local or mailing address. This will avoid misdirection of grades, registration materials, and appropriate financial documents.

STUDENT IDENTIFICATION CARDS

A photo identification card must be obtained at the security department between the hours of 8 a.m. – 4 p.m. Monday through Friday. Registration confirmation is required. Upon activation, the ID card serves as a library and meal card and provides access into the

Student Financial Services

Wahlstrom Library, Garden Level
126 Park Avenue, Bridgeport, CT 06604
Telephone: (203) 576-4568
Fax: (203) 576-4570

Financial Aid

The Office of Student Financial Services helps provide access to the educational opportunities available at the University of Bridgeport. Since students are admitted solely on the basis of their academic and personal qualities, without regard to their financial circumstances, the University offers a variety of financial aid and scholarship programs to provide financial assistance to qualified students.

The University of Bridgeport subscribes to the policy that eligibility for scholarship aid should depend on the student's achievement and promise, but that the amount of aid should depend on the relative financial need of the student and his or her family.

The financial need of most students at the University can be met in the form of scholarships, grants, loans and student employment. Funds are available to the student through the University of Bridgeport from federal and state governments, private foundations and University resources.

The University of Bridgeport awards merit scholarships recognizing outstanding academic achievement and student leadership. In addition, there are a number of other payment assistance programs that include non-University tuition plans.

Students enrolled in tuition discounted programs and Distance Learning programs are not eligible to receive institutional scholarships or grants.

The Office of Student Financial Services determines the amount and combinations of aid for which the student is eligible. Financial aid decisions are made after a student has been admitted and requests for financial assistance will not influence a candidate's consideration for admission. Financial aid is awarded on an annual basis and continuing students must apply each year for aid.

Application Procedures

New domestic students are encouraged to begin to apply for financial aid at the same

time they are seeking admission. Applicants for financial aid need to:

1. Complete the Free Application for Federal Student Aid (FAFSA) by going to www.studentaid.gov. Be sure to include the University's school code, 001416, on the FAFSA.
2. Submit copies of the student's and parents' federal tax transcript or signed federal tax returns and other verification documents upon request from the Office of Student Financial Services.
3. Upon request from the Office of Student Financial Services, submit immigration documentation certifying permanent resident status, if you are a non-U.S. citizen applying for need-based financial aid.

Continuing students must reapply for financial aid each year no later than March 1 to be given full consideration for aid for the following academic year. Students must:

1. Complete the Free Application for Federal Student Aid (FAFSA) by going to www.studentaid.gov. Be sure to include the University's school code, 001416, on the FAFSA.
2. Submit copies of student's and parents' federal tax transcript or signed tax returns and other verification documents upon request from The Office of Student Financial Services

Students and parents are encouraged to call or visit the Office of Student Financial Services if they have any questions or would like assistance with the application process. For further information call or write:

The Office of Student Financial Services

126 Park Avenue, Bridgeport, CT 06604,
SFS@Bridgeport.edu, (203) 576-4568 or toll free 1-800-243-9496, FAX (203) 576-4570.

Satisfactory Academic Progress

In order to maintain eligibility for financial aid a student must maintain satisfactory academic progress. Financial aid recipients are expected to make reasonable progress as a condition of receiving and continuing to receive aid. Students' academic progress is

assessed according to qualitative and pace measures as they apply. The qualitative measure (grades) is similar to the academic standards applied to all UB students. The pace measure (number of credit hours completed successfully/maximum timeframe) is used to monitor progress toward degree completion. For a student to be making satisfactory academic progress, the student must meet the following qualitative GPA standards and have completed, with a passing grade, at least 67% of the cumulative attempted credits.

UNDERGRADUATE

CREDITS ATTEMPTED (including transfer credit)	MINIMUM C.G.P.A.
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1 – 24	1.5
25 – 48	1.7
49 – 59	1.9
60 or more	2.0

GRADUATE

Graduate students must maintain a C.G.P.A. of 3.0 and complete 68% of the cumulative attempted credits.

FINANCIAL AID PROVISIONAL STATUS

Students not meeting satisfactory academic standards for a given academic term, as outlined above, are notified in writing and will be placed on financial aid probation/warning for one semester for which they may receive their aid. At the end of the probationary/warning semester, satisfactory academic progress will be reviewed. If the student meets the minimum standards as outlined, the probationary status will be lifted. If minimum standards are not met, the student will be ineligible for future financial aid and will be notified in writing.

Students who are reinstated after academic dismissal but have not met the federal satisfactory academic progress requirements remain ineligible for financial aid. Reinstate-ment to attend the University does not automatically include reinstatement of aid.

Students who have not maintained eligibil-ity to receive financial aid due to unsatisfac-tory academic progress may appeal for one additional semester of probationary eligibil-

Student Financial Services

ity. The student must also sign an Academic Plan agreement with Student Financial Services outlining what is needed to meet SAP. Appeals must be submitted to the Office of Student Financial Services within 10 calendar days of receipt of notice of action taken for committee review. The decision on the appeal is final. Late or incomplete appeals will not be accepted or reviewed.

REINSTATEMENT OF AID

If a student is re-admitted, the University will consider the student's application for financial aid. Reinstatement of aid is not automatic and the student must submit a letter to the Office of Student Financial Services requesting a reinstatement. In order to remain eligible for aid, students must meet the minimum academic progress standards as outlined or lose eligibility for the following semester.

FINANCIAL AID RETURN POLICY

Students withdrawing from all courses should see financial aid as it is important to discuss withdrawal and refund as it pertains to the individual student, and its implications for balances owed to the University, federal student loan repayment and future eligibility for financial assistance.

RETURN OF INSTITUTIONAL AID

Students withdrawing within the University's Tuition Refund Schedule (see Tuition, Fees and Other Expenses) will have the same schedule applied to their University of Bridgeport aid.

RETURN OF FEDERAL AID

If you have been awarded federal (Title IV) aid and you withdraw before completing 60% of the semester your financial aid award will be recalculated, according to the percentage of the semester you have completed. The formula for calculating this percentage is:

(Days Enrolled - Official Breaks of Five Days or Longer) divided by (Total Number of Days in the Semester).

Students who plan to withdraw from classes are advised to speak with a Financial Aid Advisor prior to doing so to ensure they are aware of the ramifications to their financial aid.

Financial Assistance Programs

The University of Bridgeport believes that a student's achievements should be recognized and rewarded. Our scholarships and grants enable students who have potential and want to benefit from a high quality academic program. Students who qualify must enroll as and maintain full time traditional status. Undergraduate awards are renewable for up to four years based on satisfactory academic progress and good standing at the University. Students who are enrolled in accelerated/professional courses are not eligible for these awards.

GRADUATE ASSISTANTSHIPS

Graduate Assistantships are available. Please contact the Office of Graduate Assistantships (203) 576-4111.

UNIVERSITY OF BRIDGEPORT MERIT AWARD

Financial need is not required for merit based scholarships which are awarded at time of admission based on criteria set forth by the Office of Admissions.

UNIVERSITY OF BRIDGEPORT GRANT

Awarded to undergraduates with financial need. University of Bridgeport's Merit and Need based awards, combined with federal and state grants, are limited to tuition and fee charges. Resident Assistants and Athletes may receive designated funds to go toward housing charges.

Federal Title IV Programs

FEDERAL PELL GRANT

Pell Grants are awarded to undergraduate students who have not earned a bachelor's or professional degree. Pell Grant awards are based upon the student's Estimated Family Contribution (EFC), enrollment status, cost of attendance, and the number of credit hours in which the student is enrolled. The maximum grant a student can receive for the year is determined by the government.

FEDERAL SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT (FSEOG)

The FSEOG is a grant that does not have to

be repaid. Priority is given to the neediest students with the lowest EFC's who are Pell eligible. Students who have submitted their financial aid applications by the University's deadline will be given first priority. All other students will be given consideration for FSEOG funds on a first come first serve basis pending the availability of funds. FSEOG awards vary based on need and U.S. Department of Education allocation to the University.

FEDERAL WORK STUDY (FWS)

The Federal Work Study Program provides jobs for undergraduate students who demonstrate financial need. The amount of the FWS award is based on both the student's need and the availability of funds at the University. While there are several FWS jobs available on campus, students are also encouraged to work in community service related jobs. Federal work Study does not get deducted from student's direct costs.

FEDERAL DIRECT LOANS (SUBSIDIZED and UNSUBSIDIZED)

All student loans will now be originated in the Direct Loan Program, in which the Federal government makes loans directly to students. Both Direct Loan programs require the borrowers to complete an Entrance Counseling and the Master Promissory Note. To obtain more information about the Federal Direct Loan programs; you can visit the website at: www.studentaid.gov.

The Direct Subsidized Loan is awarded to undergraduate students who demonstrate financial need. The federal government pays all interest costs for Direct Subsidized borrowers while the borrowers are attending school at least half-time and during deferment periods.

The Direct Unsubsidized Loan is awarded to students who do not meet financial need, need to supplement their Direct Subsidized Loans or are Graduate students. Borrowers may defer payment of interest during school, grace, and deferment periods, but remain responsible for all interest that accrues (accumulates). Any interest accrued and not paid by time repayment period begins will be capitalized. A small origination fee will be charged by Direct Lending for each loan.

Student Financial Services

The amount is determined each year by the government.

Undergraduate Dependent students may borrow as freshman up to \$5,500 (including up to \$3,500 Subsidized) per year; sophomores up to \$6,500 (including \$4,500 Subsidized) per year; and \$7,500 as juniors and seniors (including up to \$5,500 Subsidized) per year.

Undergraduate Independent students may borrow as freshman up to \$9,500 (including up to \$3,500 Subsidized); sophomores up to \$10,500 (including up to \$4,500 Subsidized); and as juniors and seniors may borrow up to \$12,500 (including up to \$5,500 Subsidized).

Students start repayment of the loan(s) (plus interest) six months after completion of the degree program, withdrawal or change to less than half-time enrollment status. The government offers different repayment plans and the most frequent is the standard repayment which spreads out over the course of 10 years (principal and interest amounts). **Important to Know:** Dependent students whose parents get DENIED a Federal Direct PLUS Loan can receive an additional \$4,000 for the freshman and sophomore years and \$5,000 for juniors and seniors years.

GRADUATE/PROFESSIONAL students can borrow up to \$20,500 per award year. Chiropractic and Naturopathic students have increased eligibility in Direct Unsubsidized.

Interest rates on Federal Direct Loan programs get established every year; starts on/after July 1st of the current year and carries out to the following calendar year ending June 30th.

FEDERAL DIRECT PLUS LOANS

The Federal Direct PLUS Loan programs are available to parents of dependent students and graduate and professional degree students. The amount that could be borrowed is up to the cost of attendance, minus financial aid from other sources. Interest Rates are determined each year. An origination fee will be charged by Direct Lending. The amount is determined each year by the government.

FEDERAL DIRECT PARENT PLUS LOAN

Parents of dependent students may apply

for a parent PLUS LOAN to help their child's educational expenses. The parent must be the student's biological or adoptive parent. The parent must not have an adverse credit history (must be credit worthy). The parent must complete the plus loan application and sign the Master Promissory Note (MPN).

FEDERAL DIRECT GRADUATE PLUS LOAN

The Graduate/Professional seeking degree students can borrow a Direct PLUS Loan to help them cover their educational expenses. The amount of loan they can borrow is up to their cost of attendance minus the Federal Direct Subsidized and Unsubsidized Loans for the award year. The student must complete the Direct PLUS Loan application and sign the Master Promissory Note every academic year.

State Programs

Financial assistance programs are available to qualified students from the state of Connecticut, including the Connecticut Independent College Student Grant. Many other states also have scholarship programs for residents of their state. For more information, contact your state's agency for higher education.

ROBERTA B WILLIS NEED-BASED GRANT PROGRAM

As an independent University, the University of Bridgeport participates in the Governor's Scholarship Grant Program. Connecticut undergraduate students who enroll on a full-time basis at the University and who meet the Expected Family Contribution (EFC) requirements are considered for this grant. Funding is limited. Students who file their financial aid applications by the priority deadline will be considered first.

ROBERTA B WILLIS NEED-MERIT SCHOLARSHIP PROGRAM

Connecticut residents who are undergraduate students can apply to the Connecticut Board of Higher Education for consideration. High school seniors who ranked in the top 20th percentile of their high school junior year class or college undergraduates who ranked in the top 20th percentile of their high school senior year class and/or have a combined score on the Scholastic

Aptitude Test (SAT) of 1200 or higher or an ACT score of 25 or higher. Financial need is also a criterion. Applications are available at high schools or at www.ctdhe.org and must be submitted by February 15. Students who are recipients of CSP awards must follow the state renewal process each academic year.

Awards And Prizes

Harvey Herer Memorial Fund. Awarded to a Women's Basketball Team junior with the highest GPA at the Spring Sports Banquet.

Dr. George B. Blake, Jr. Memorial Fund. George Blake was an extraordinary individual who served his students at the University of Bridgeport as an Associate Professor of English as well as the Director of the School of General Studies until his untimely death in 2001. The subsequent outpouring of grief by students, faculty, and administration led to the establishment of the Memorial Fund, used to date to establish a gathering place in his name outside of the west entrance to Charles Dana Hall. The remaining proceeds will fund the stipend associated with the Dr. George B. Blake, Jr. Humanities Award.

William E. Laur Achievement Award. The will of William E. Laur specifies that the award to be known as the William E. Laur Achievement Award for a student in the graduating class of the Elementary Education Section of the Graduate School of Education, who ranks at or near the bottom of his graduating class and receives his/her M.S. in Elementary Education and who is a deserving student.

Charles E. Reed Science Award. Established by the Board of Trustees of the University of Bridgeport to honor Dr. Charles E. Reed for his distinguished leadership as Chairman of the Board from 1978 through 1983, and in recognition of his outstanding contributions to the field of science. The award will be presented annually to an undergraduate student who has achieved the highest level of excellence in scientific and/or engineering studies at the University of Bridgeport.

Graduate Scholarships

Applications are available in January of each year for the following year's graduate scholarships.

Student Financial Services

SCHOOL OF BUSINESS & SCHOOL OF ENGINEERING

Kiran Kumar R. Gopu Memorial Scholarship. Established by the family & friends of Kiran Kumar R. Gopu, who was lost in the terrorist attack on the New York World Trade Center on 09/11/01, while he was on a Co-operative Education assignment at Marsh & McLennan, Inc, and working for an M.S. degree in Computer Science. This scholarship is for full-time international students in the School of Engineering majoring in Computer Science with at least a 3.50 GPA.

the School of Education or the Division of Counseling and Human Resources. First preference is to be given to students who have come through or plan to work within the Bridgeport school system.

SCHOOL OF EDUCATION

Lydia A. Duggins Memorial Fund. Created in honor of Dr. Lydia A. Duggins, a cherished and renowned Professor of Reading at the University of Bridgeport, this fund will be used to provide scholarships for students in Education.

Peter Gehrig Linabury Memorial Fund. Established in 2012 by his family, this scholarship is to be awarded to students changing careers to become teachers in elementary education.

Richard Conant Harper Scholarship. Established by Dr. Richard C. Harper upon his retirement from the School of Education after 20 years of service to assist single mothers in their quest to become certified public school teachers.

Lauren Rousseau Elementary Education Memorial Scholarship. The Lauren Rousseau Elementary Education Memorial Scholarship, established to honor the memory of Lauren Gabrielle Rousseau, a 30-year old teacher, who was one of the 26 individuals who lost their lives in the tragedy at Sandy Hook Elementary School on December 14, 2012, will be awarded to an applicant seeking certification in elementary education who is a highly motivated, passionate, strong individual with a desire to make a meaningful contribution to the lives of young children through their teaching.

Augusta Silverstone Memorial Scholarship. Given by her sister, Minnie Silverstone, in recognition of Augusta's contributions as an educator and counselor with the Bridgeport Board of Education. Income will be awarded as financial aid to a graduate student in either

Student Affairs

Dean of Students: Craig Lennon
John J. Cox Student Center, Room 116
244 University Ave., Bridgeport, CT 06604
Telephone: (203) 576-4392 or 4393
E-mail: deanofstudents@bridgeport.edu

The contribution of the Division of Student Affairs to the University of Bridgeport and its students arises out of the special perspective which members of the student affairs staff have about students and their growth and development, their experiences, and their campus environments. This perspective draws on research about teaching and learning, which emphasize the importance of community, diversity, and individual differences to the educational experience.

The Student Life program is administered through the Division of Student Affairs by the Vice President of Student Affairs and Dean of Students. It includes campus activities and civic engagement, community standards, counseling services, health services, housing and residential life, interfaith center, international center for students and scholars, student accessibility services, as well as Title IX.

The Division of Student Affairs enhances and supports the mission, goals, and objectives of the University of Bridgeport as an international, culturally diverse supportive learning environment, preparing graduates for life and leadership in an increasingly interconnected world. In this role, the staff of the student affairs division has a diverse and complicated set of responsibilities: to advocate for the common good while championing the rights of the individual; to encourage intelligent risk-taking while setting limits on behavior; and to promote independent thought while teaching interdependent behavior.

The extent to which the University is successful in creating a climate in which these contradictory ends can coexist is reflected in how well students are able to recognize and deal with such contradictions both during and after their college experience. The Division of Student Affairs is committed to assisting students and the University of Bridgeport community as they seek to meet the challenges inherent in balancing these complex and often competing goals.

—Adopted from *A Perspective on Student Af-*

fairs, National Association of Student Personnel Administrators, 1987.

Students are encouraged to take an active role in the life of the campus community, where there are many opportunities to contribute to group decisions, practice leadership, sort out priorities and make personal choices. Students at the University of Bridgeport are responsible for making their own decisions and forming their own judgments concerning personal, social and academic activities. They share the responsibility for maintaining the educational climate needed for learning and for personal growth. The University retains high expectations of appropriate behavior and expects that when students decide to enroll they will abide by all the rules of the University.

When the University deems it necessary it reserves the right to notify the parent or guardian to whom a student is financially dependent regarding the health, academic or disciplinary status of the student. (Dependency is defined by Section 152 of the 1954 Internal Revenue Code).

Services

STUDENT INVOLVEMENT

The Office of Student Involvement is dedicated to community success through challenging students to become engaged in student organization membership and participation, leadership development, and community service. Through active participation, students contribute to making a difference for the community by creating and executing diverse programs. The Office provides guidance and mentorship for all student clubs and organizations as well as offers friendly services and inviting facilities for the total learning experience.

Events and activities approved by the Office are designed to motivate, challenge, introduce and create opportunities for education — both inside and outside the classroom.

The Office of Student Involvement employs workers that support the transformation of campus culture through hands-on experiences in project management, workshop development, club training, project implementation, student advisement, event planning,

budgeting, student supervision, and the development of leadership skills. The Office is located in the John J. Cox Student Center, Rm 231.

CENTER FOR RELIGIOUS AND SPIRITUAL LIFE

Overseen by the Office of Campus Activities and Civic Engagement, The Center for Religious and Spiritual Life serves the religious and spiritual needs of the UB community. Clergy and ministers from several major religious denominations have dedicated office hours at the Center and provide opportunities for worship, spiritual guidance and counseling, as well as a variety of social and educational programs which enable students, faculty and staff to enhance and nurture their religious and spiritual lives. The staff is available to all students, regardless of religious or spiritual identity, and will make appropriate referrals to resources in the greater community as requested. The Center is located on the 1st floor of Carstensen Hall. An interfaith chapel is located in Carstensen Hall. For more information, please contact the Office of Campus Activities and Civic Engagement at 203-576-4487.

CIVIC ENGAGEMENT

UB students are actively involved in making significant contributions to those in need in the greater Bridgeport community. Some of the programs UB students are involved in include tutoring local elementary and high school students, visiting the elderly, assisting at soup kitchens and food banks, sponsoring clothing and food drives and organizing fundraisers for local charities. Listings of community service opportunities can be found in the Heckman Center as well as on-line through Knightlife at <http://knighthife.bridgeport.edu>.

CLUBS AND ORGANIZATIONS

The University supports a wide range of student clubs, organizations and special interest groups that expand and cultivate the academic, professional and cultural interests of students. Each group develops, within broad University guidelines, its own policies and programs with the assistance of a faculty or staff advisor. In the 2018-2019 Academic Year, the University had 81 active clubs and

Student Affairs

organizations. A comprehensive list of active student clubs and organizations can be found on the UB website, under Campus Activities.

COMMUNITY STANDARDS

Students at the University of Bridgeport are expected to respect the rights of others, exercise responsible judgment and follow high standards of personal conduct. Students are expected to involve themselves in activities that promote the welfare of the University and to behave with courtesy and restraint toward fellow students and University staff. The University fosters a multicultural, international environment and does not condone or tolerate discrimination on the basis of gender, sexual orientation, race, color, religion, age, national or ethnic origin, creed, political affiliation, or handicap. The University strives to create an atmosphere of mutual trust between individuals, promoting self-discipline, and community standards.

At the same time, the University maintains concern about the behavior of its students both on and off campus. In the maintenance of its academic, social and health standards, the University reserves the right to be the sole determiner as to whether a student should be removed from residence life, receive fines or sanctions, be suspended or expelled, granted a leave of absence or dismissed. A student suspended or expelled from the University is responsible for the full payment of his/her financial charges for the semester.

Students are expected to conform to all governing regulations of the University as outlined in the Key to UB (Student Handbook), the Catalog and all official notifications of policy. A student will be subject to University disciplinary procedures if his/her on or off-campus behavior results in violations of these regulations, civil and/or criminal law.

Disciplinary action, notification of charges, disciplinary procedures, appeals and a review of actions that may lead to disciplinary procedures are identified and described in the Key to UB (Student Handbook). It is the responsibility of the student to familiarize him/herself with all University and Residence Hall codes, regulations and policies, which are all available on-line on the Univer-

sity's website and portal.

COUNSELING SERVICES

Counseling Services offers psychological treatment opportunities to all undergraduate and graduate students. Services include short-term individual counseling, group counseling, psychiatric service, outreach programs, crisis intervention, mental health screenings, and referral services. Counseling Services also offers consultations to faculty and staff that need assistance with students in distress. All services are designed to promote personal growth and emotional well-being, while enhancing students' ability to benefit from the University environment and academic experience. Outreach workshops are available to students with topics including (but not limited to) healthy relationships, stress management, and drug/alcohol issues.

The Counseling Services staff is committed to being responsive and sensitive to the needs of a highly diverse student population. We are particularly aware of the cultural issues facing international students and offer supportive counseling to address their needs.

For more information call (203) 576-4454, email: counselingservices@bridgeport.edu or visit us on the web at: <https://www.bridgeport.edu/life/services/counseling/>. The office is located in Carstensen Hall on the second floor.

STUDENT ACCESSIBILITY SERVICES

The University of Bridgeport is committed to providing services to qualified students with disabilities so that they receive an equal educational opportunity. In compliance with Section 504 of the Rehabilitation Act, the American with Disabilities Act and Connecticut State Laws, we provide reasonable accommodations to reduce the Impact of disabilities on academic functioning or upon other life activities in a University setting.

All accommodations are determined on an individual basis. If a student with a disability would like to register for accommodations, he/she is encouraged to initiate the request upon enrollment and at the beginning of each semester for which they are requesting services. It is strongly recommended that students complete the registration process

before the second week of classes to facilitate the timely implementation of reasonable accommodations.

For further information call (203) 576-4454, email: accessibilityservices@bridgeport.edu or visit us on the web at: <https://www.bridgeport.edu/life/student-accessibility>.

FACILITIES

Although opportunities for social activities occur everywhere on campus, the following facilities are used for student-related social, recreational, and organizational activities.

John J. Cox Student Center provides many facilities for student life activity. The Social Room, wellness room, meeting rooms, Knights lounge, Knight's End café, game room and billiards room are all part of the Student Center. Offices for campus organizations such as the Student Government Association, "The Scribe" student newspaper, Veterans Oasis, as well as several other student organizations, are also housed in this facility. The Student Center is also home to several offices of the Division of Student Affairs. Programming in the Student Center ranges from dance parties, concerts, semi-formals and special dinners to movies, lectures and fashion shows.

Carstensen Hall houses the offices of Counseling Services, Student Accessibilities Services and our Title IX Coordinator. It also houses the Center for Religious and Spiritual Life which provides special opportunities for students who are seeking to maintain and enrich their spiritual life on campus. Adjacent to the Student Center, it provides a quiet, warm atmosphere in which individuals can reflect every day.

FAMILY OUTREACH

We believe the more informed you are about the University of Bridgeport, the better resource you can be for your student. Thank you for all that you do to support your student and assist us as we focus on our mission of student success at UB.

FRATERNAL ORGANIZATIONS

Greek Letter Organizations contribute to University social life and offer opportunities for the development of leadership skills and provide volunteer service to the cam-

Student Affairs

pus and to the greater Bridgeport community. Current active organizations are Alpha Kappa Alpha Sorority, Inc., Alpha Phi Alpha Fraternity, Inc., Chi Upsilon Sigma National Latin Sorority, Inc., Delta Sigma Theta Sorority, Ltd., Lambda Pi Upsilon Sorority, Latinas Poderosas Unidas, Inc., and Sigma Gamma Rho Sorority, Inc.

INTERNATIONAL CENTER FOR STUDENTS AND SCHOLARS

Center for Students and Scholars strives to ensure institutional compliance with federal regulations and to assist international students and scholars, their dependents, and prospective students with immigration matters and adjustment to life in the United States. We strive to facilitate an environment where students can develop a clear understanding of their immigration status requirements that will support the pursuance of their degree programs.

We provide information on a wide range of topics including maintaining status, travel, employment eligibility, financial questions, social and cultural differences, and personal concerns. We endeavor to minimize the difficulties our international students and exchange visitors may experience upon arrival by offering a monthly Coffee Hour and by giving necessary information throughout the year. We also provide professional expertise on immigration, employment and taxation issues by holding seminars and workshops.

Upon arrival on Campus, all new international students and scholars report to this office for passport check-in. A mandatory immigration and personal safety information session is also required for all international students.

Please visit the Center for Students and Scholars website at <https://ic.bridgeport.edu/> for more detailed information, applications and general assistance. Individual appointments with an International Student Advisor are available by calling the office at (203) 576-4395. We may also be reached by fax at (203) 576-4461 and e-mail at internationaloffice@bridgeport.edu. The office is located in the Wahlstrom Library, Garden Level, Room 133.

MEDIA

The residence halls, as well as the staff of the Division of Student Affairs, publish infor-

mational newsletters and the Purple Knight Weekly student activity e-newsletter as well as maintain a presence on various social media platforms.

ORIENTATION

New student orientation programs are designed to introduce students to the University of Bridgeport community. The orientation program begins with summer orientation and continues a few days prior to the start of classes. This gives incoming students the opportunity to get settled in their new environment and to become familiar with their academic program. Formal and informal social and informational sessions provide students with the opportunity not only to learn about the University's policies, but to meet and socialize with other students. All new students are expected to attend.

RESIDENTIAL LIFE

The University recognizes the important contribution that life in the residence halls can make in a student's total educational experience. Each hall is staffed by a live-in professional staff member and trained student staff Resident Assistants on each floor. Their efforts are coordinated through the Office of Housing and Residential Life. Residence Hall staff have the responsibility of enforcing University policies, procedures and regulations as they relate to residential living as well as promoting, with the active cooperation of residents, an environment that supports academic achievement. The office is located in the back of Seeley Hall.

LIVING ON CAMPUS

The University offers a variety of housing options. Students have the choice of a single, double, double-as-single, triple or triple-as-a-double room, each with a different price structure. Room preference assignment are subject to availability with some restrictions. Efforts are made to match new roommates by preferences stated in their housing contract. Students may seek a change in roommates after the second week of classes but before October 1 (fall semester) or March 1 (spring semester). The University is not responsible for theft or damage to personal property, students are advised to obtain renter's insurance, or ensure coverage under their parents'

homeowner's policy.

RESIDENCE AND MEAL PLAN REQUIREMENTS

All students who are full-time undergraduates are required to live in University residence halls unless they meet one or more of the following criteria:

1. Those who have attained the age of 21 by the first day of classes.
2. Those who have accumulated 90 academic credits (including transfer credits) by the first day of classes.
3. Those who are living at home with parents, a spouse or other immediate relatives within a 30 mile driving distance of the University.

Exceptions to this policy must be requested from the Office of Housing and Residential Life in writing and approved by the Director of Residential Housing and Residential Life or his/her designee by the first day of classes.

Meals are served three times daily, with the exception of Saturday and Sunday when two meals are served. The Dining Hall is closed during vacation periods as scheduled in the University calendar. Meals to suit a variety of dietary needs are available at the Dining Hall upon request.

Winter and summer housing is available on a limited basis and under separate contract. Additional requirements may apply.

The Residence Hall and Meal contracts, once signed by the student, are binding for the academic year (not the semester).

STUDENT EMPLOYMENT

Student Employment assists with processes such as Student Worker Authorization, Federal Work Study Opportunities, Non-Federal Work Study, processing of Graduate Assistantships, Teaching Assistants, Research Assistants, Employment Verifications and is an opportunity for students at the University of Bridgeport to learn about the work environment while obtaining a degree. Student Employment is located on the ground floor of Wahlstrom Library. For information please contact us at: Studentemployment@bridgeport.edu or 203-576-4471.

Student Affairs

STUDENT HEALTH SERVICES

The mission of University of Bridgeport Student Health Services is to promote the well-being of students. We provide high quality, culturally competent, Student Health Care for the treatment of acute illness and injuries. In addition, health education programs are offered to the campus community.

Student Health Services does not seek to replace family physician care but rather to supplement that care during years when the student is attending the University, often at some distance from home. Student Health Services' emphasis is geared towards wellness. We offer health education, preventive health screenings, health promotion programs and immunizations. Students' individual needs are attended to in a confidential and caring manner. All information and records pertaining to any aspect of a student's health are strictly, confidential. Student Health Services is staffed by a Medical Director, two part-time APRNs, two full-time registered nurses, and an Office Manager and is located at 60 Lafayette Street, Room 119.

STUDENT HEALTH SERVICES REQUIREMENTS

Students registering at the University of Bridgeport are required to provide proof of immunization listed below prior to registration. Health Requirements and Health Forms can be found on www.bridgeport.edu/healthform. Students going into Clinical Health Sciences or the Nursing Program have special health requirements which can also be found on www.bridgeport.edu/healthforms.

MMR (MEASLES, MUMPS, RUBELLA) IMMUNIZATIONS

Connecticut Public Act No. 89-90 requires all students born after December 31, 1956 to provide proof of immunization against measles, mumps, and rubella. You are required to provide proof of two doses of measles, mumps, and rubella immunizations.

1. First dose on or after 12 months of age and given in or after 1969.
2. Second dose given on or after January 1, 1980.

3. Laboratory evidence (blood test) of immunity is acceptable in lieu of administration of vaccines but you must provide proof of immunity with a Laboratory report.

VARICELLA (CHICKENPOX) IMMUNIZATIONS

1. Two vaccines (12 weeks apart if vaccinated between 1 and 12 years and at least 4 weeks apart if vaccinated at age 13 years).
2. Laboratory evidence (Blood Test) of immunity is acceptable in lieu of administered vaccine, but you must provide proof of immunity with the laboratory report.
3. A documented history of having had the disease by a medical doctor or public health department is accepted documentation.
4. Students born in the United States before 1980 are exempt.

MENINGITIS VACCINE (A, C, Y, W-135)

Students who will be residing in on-campus housing will also be required to provide proof of meningitis vaccine administered (A, C, Y, and W-135) within the past 5 years.

TUBERCULOSIS TESTING

A tuberculosis risk assessment and if necessary a Tuberculosis test IGRA or chest X-ray is required within six months prior to admission to the University. History of prophylactic treatment if indicated is also required. Tuberculosis testing is not required for online students, through it is highly recommended by Student Health Services. The Tuberculosis Risk Assessment and associated information can be found on www.bridgeport.edu/healthforms.

HEPATITIS B VACCINE

College students are at an increased risk of developing a Hepatitis B infection. All students are strongly encouraged to be vaccinated for Hepatitis B. Hepatitis B vaccine information from the Center for Disease Control can be found on <http://www.cdc.gov/vaccines/vpd/hepb/index.html>.

STUDENT HEALTH INSURANCE

All on campus students are automatically enrolled in the Injury plan at registration. All full-time undergraduate students, all students in campus housing, and Physician Assistant Students are required to participate and are automatically enrolled in the Sickness plan at registration and charges are added to their account, unless proof of comparable coverage is furnished by the deadline date indicated on the Waiver website. All international students are required to participate and are automatically enrolled in both the Injury and Sickness Plans at registration and charges are added to their account. Coverage for international students cannot be waived.

Part-time Domestic Graduate Students taking at least 6 credit hours and Part-Time Undergraduate students taking at least 7 credits who are not living on campus may participate in the Sickness plans on a voluntary basis. Dependents of those enrolled for both Injury and Sickness may also participate in the plan on a voluntary basis.

TITLE IX COORDINATOR

The University of Bridgeport is committed to preventing and eliminating all forms of gender-based discrimination in its education programs and activities, in accordance with its commitment to Title IX of the Education Amendments of 1972. Gender-based discrimination includes sexual assault, sexual harassment, intimate partner violence, and any act in violation of the University's sexual misconduct policies. The Title IX Coordinator ensures prompt and effective response to complaint; provides education and awareness programming; and serves as a resource for individuals seeking on-and-off campus advocacy and support services. The Title IX Coordinator may be contacted at [TitleIX@bridgeport.edu](mailto>TitleIX@bridgeport.edu).

Academic Regulations and Procedures

UNDERGRADUATE REGULATIONS, POLICIES AND PROCEDURES

Classification of Students

REGULAR

A student who has completed all the admission requirements and who has presented a background of scholarship and performance that indicates his/her capacity to profit from and complete a degree program is admitted as a regular degree student.

PROVISIONAL

A student who has met the general requirements for admission, but not those for full standing because the promise of achievement in the area of intended study cannot be accurately appraised at the time of admission, is admitted provisionally subject to conditions stated on the Certificate of Admission.

STUDENT STATUS

Only matriculated students carrying at least twelve semester hours are eligible for election to class and other offices (with the exception of the Part-time Student Council, and University Senate)

A full-time student is defined as someone accepted to the University pursuing an academic program, registered for at least 12 semester hours of credit each semester (excluding co-op terms).

A part-time matriculated student has been accepted into a degree program and registers for 1-11 semester hours of credit each semester.

An applicant admitted with permission to take courses for which he or she is qualified (met the prerequisites), but not as a degree candidate, is a special student. Special Students may later apply for matriculation and are subject to any changes in graduation requirements instituted prior to actual matriculation.

CLASS STANDING

Students are classified according to the number of college hours satisfactorily completed:

Freshman	0-29 semester hours
Sophomore	30-59 semester hours
Junior	60-89 semester hours

Senior

90 and above

THE MAJOR

All matriculated students are expected to declare their major before the end of their sophomore; however, some majors require earlier declaration if the student plans to complete within four years.

The student must earn a grade of "C-" or better in every major course. However, the student's overall quality point ratio in major courses must be at least 2.0. In some cases, departmental requirements may exceed these minimums. If a student earns a grade of "D" or "F" in a course in the major field, he or she retake that course and earn a "C-" or better.

THE MINOR

The University offers the option of selecting a second area of specialization. Like the major, the minor was conceived to provide a unified, coherent program in a discipline or area of knowledge. While requiring a second focus for the student's intellectual interests, it enables him or her to investigate the important concepts of a specific area and to acquire a firm basis for further study.

In terms of career preparation, the minor option can complement a regular major program or it may add an entirely new dimension to the traditional curriculum. A minor is a minimum of 18 credits to be defined by the School and Department.

Students who wish to pursue a minor should obtain the Minor Request Form in the Dean's or Director's office of the College or School in which the minor is offered. Any student seeking more than one minor requires the Dean's written permission.

The following minors are currently available at the University of Bridgeport:

- Accounting (Accounting Program, College of Engineering, Business, and Education)
- Applied Music- (Music Program, College of Science and Society)
- Arabic- (Modern Languages program, College of Science and Society)
- Biology- (Biology Program, College of Science and Society)
- Chemistry- (Chemistry Department, College of Science and Society)
- Chinese- (Modern Languages program, College of Science and Society)
- Computer Engineering- (Computer Engineering Program, College of Engineering, Business, and Education)
- Computer Science- (Computer Science Program, College of Engineering, Business, and Education)
- Criminal Justice and Human Security- (Criminal Justice and Human Security Program, College of Science and Society)
- Education (Education Program, College of Engineering, Business, and Education)
- Electrical Engineering- (Electrical Engineering Program, College of Engineering, Business, and Education)
- English and Professional Writing - (English Program, College of Science and Society)
- Film, Television, and Digital Media (English Department, College of Science and Society)
- Finance (Finance Program, College of Engineering, Business, and Education)
- French- (Modern Languages program, College of Science and Society)
- History- (Contact the Chair of the General Studies: Humanities Program, College of Science and Society)
- Human Services- (Human Services Program), College of Science and Society)
- Industrial Organizational Psychology - (Psychology Program, College of Science and Society)
- Japanese- (Modern Languages program, College of Science and Society)
- Korean- (Modern Languages program, College of Science and Society)
- Management (Management Program, College of Engineering, Business, and Education)

Academic Regulations and Procedures

- Mathematics- (Mathematics Program, College of Science and Society)
- Mechanical Engineering- (Mechanical Engineering Program, College of Engineering, Business, and Education)
- Multicultural Studies- (General Studies: Social Science Program, College of Science and Society)
- Music- (Music Program, College of Science and Society)
- Philosophy- (General Studies: Humanities Program, College of Science and Society)
- Physics- (Physics Department, College of Science and Society)
- Pre-medicine- (Biology Program, College of Science and Society)
- Psychology- (Psychology Program, College of Science and Society)
- Russian- (Modern Languages program, College of Science and Society)
- Spanish- (Modern Languages program, College of Science and Society)
- Theater- (Music Program, College of Science and Society)

SECOND BACHELOR'S DEGREE

Students who wish to earn a second Bachelor's degree must fulfill all College/School and major requirements for the second degree and must earn a minimum of 30 additional credits beyond the number required for the first Bachelor's.

DOUBLE MAJORS

Students who wish to earn a double major must complete all major requirements for both majors which might involve completing additional credits above those required for a single major. If the degrees are from different colleges, additional requirements may apply as well.

UNDECLARED MAJORS

All students who have not declared a major program of study will continue to work with their professional advisor to identify appropriate curriculum plans through general education requirements and elective options.

By the end of sophomore year, all matriculated students are expected to have a declared major.

The Advising System

The University provides academic and personal services to support each student's effort to gain the best possible undergraduate education. Selecting a course of study, choosing a major, and deciding upon a career are crucial decisions for every student. The Advising System functions to assist students in designing their programs according to their individual interests and needs.

Students are assigned a professional advisor upon acceptance to the University. Professional advisors are available for consultation throughout the student's tenure for purposes of academic advisement and assistance with course selection. As a student transitions from first to second year, s/he will be assigned a faculty advisor in the selected major; however, undeclared students will continue to work with their professional advisor until a major is declared. Advisors approve registrations for traditional undergraduates and program or major changes for all students. For assistance with non-academic concerns, professional counselors are available through the University's Student Affairs Division.

Registration for Courses

The student must formally register for courses during the regular or early registration period. All charges for the semester are payable in full before or during registration unless the student has applied for the deferred payment plan. A program of fifteen or sixteen semester hours constitutes a normal load. No student will be permitted to register for more than eighteen semester hours in any one semester without the prior written approval of the appropriate College Dean or School Director.

CHANGE OF REGISTRATION

All changes of registration are coordinated through the professional center. Students shall refer to the published course schedule and Key to UB to determine additional approval procedures and requirements for all

program changes. The student must submit all approved changes of registration, including course withdrawals, to the Office of the Registrar by the published deadlines.

ADD / DROP

Undergraduate students may withdraw from any course with advisor approval. Course withdrawals may be requested up to the last date to withdraw from courses as published in the course schedule book or academic calendar. To withdraw from a course, obtain a Schedule Adjustment Form from the Office of the Registrar and take it to your advisor. Advisor's signature is required to withdraw from any course. Return the signed withdrawal form to the Office of the Registrar for processing.

If a student officially withdraws from a course by the add/drop deadline, no grade will be reported and the course will not appear on the student's transcript. On occasions a withdrawal is granted after the first 20 days for reasons beyond the student's control as determined by the student's advisor. In these cases, a "W" will be posted on the student's transcript for the course. When a student registers for a course, but ceases to attend class without filing an application for withdrawal a grade of "F" shall be posted to the student's transcript. Tuition refunds for course withdrawals will be calculated according to the University's official refund policy. Federal Financial Aid awards are subject to adjustment when a student withdraws from the University. Cessation of attendance, notice to instructors, or telephone calls to the University, do not constitute official withdrawal from the University.

CLASS ATTENDANCE

Undergraduate students are expected to attend their classes regularly. The instructor shall specify in the course syllabus at the beginning of the semester the extent to which the attendance factor will be taken into account when grades are calculated. Due allowance, however, will be made for such factors as illness, inclement weather, and severe personal or family problems.

UNIVERSITY POLICIES APPLICABLE TO BOTH UNDERGRADUATE AND GRADUATE PROGRAMS

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INTERNATIONAL STUDENT ATTENDANCE POLICY

International students must pursue a full-time course of study to maintain status and are required by the conditions of their visa to attend scheduled classes. Failure to attend classes may lead to termination of SEVIS records. Before making changes to their schedules, International students must speak with an academic advisor and consult with International Student Services. ISS is located on the Garden Level of Wahlstrom Library.

UNIVERSAL ENGLISH

All student papers submitted to any instructor at the University must be of University standard in form, spelling, punctuation and literary organization. Instructors may refuse to read or to correct papers that are not in keeping with the standards of good English usage.

Grades and Quality Points

Grades are an indication of the standard of academic work performed. Throughout their program of study, students will be continually apprised of their academic progress. Students' grades are provided at the end of each course. Requests for official transcripts must be made in writing, accompanied by a \$10.00 administrative fee which is submitted to the Accounting Office. Official transcripts are released by the Registrar's Office only after all other offices have issued clearances for the student.

The University of Bridgeport uses the following academic grading system. The chart also describes the impact of each grade on a student's academic progress.

GRADE	QUALITY PTS	EXPLANATION INCLUDED	INCLUDED IN CREDITS EARNED	INCLUDED IN CREDITS ATTEMPTED
A (93-100)	4.0	Excellent	Yes	Yes
A- (90-92)	3.7	Excellent	Yes	Yes
B+ (87-89)	3.3	Good	Yes	Yes
B (83-86)	3.0	Good	Yes	Yes
B- (80-82)	2.7	Good	Yes	Yes
C+ (77-79)	2.3	Satisfactory	Yes	Yes
C (73-76)	2.0	Satisfactory	Yes	Yes
C- (70-72)	1.7	Below	Yes	Yes

D+ (67-69)	1.3	Poor	Yes	Yes
D (63-66)	1.0	Poor	Yes	Yes
D- (60-62)	0.7	Poor	Yes	Yes
F (below 60)	0.0	Fail	No	Yes

Grades followed by an "R" on transcripts indicate that the course has been repeated.

Grades not used in the calculation of Grade Point Average:

GRADE	QUALITY PTS	EXPLANATION INCLUDED	INCLUDED IN CREDITS EARNED	INCLUDED IN CREDITS ATTEMPTED
P	N/A	Pass	Yes	Yes
TR	N/A	Transfer Credit	Yes	Yes
DP	N/A	Dropped Course	No	No
NS	N/A	No Start	No	No
UG	N/A	Ungraded	No	Yes
CBE	N/A	Credit by Examination	Yes	Yes
AU	N/A	Audit	No	No
W	N/A	Withdrawn	No	Yes
INC	N/A	Incomplete	No	Yes
EC	N/A	Credit Awarded	Yes	Yes
		Experiential Learning		
EXT	N/A	Continuing	No	No
		Education Credit		
AP	N/A	Advance Placement	Yes	Yes

Grade points are calculated by multiplying the number of quality points of each grade total by the total number of assigned credits for that course. The GPA is obtained by dividing the total number of grade points earned by the total number of credits attempted.

A student's transcript identifies two different Grade Point Averages (GPA). The first is the Semester GPA, which is based on the courses taken only for that semester and the second is a Cumulative GPA (CGPA) that consists of all the courses a student has taken at the University and the grades received for those courses.

REPEATED COURSES

Students are required to repeat any course in which they have received an "F", or a "W" if that course is required in the student's program, or if they have not earned a

grade that meets program or major grade requirements. Students may also choose to repeat a course to qualify for graduation status (2.0) or generally to improve their CGPA. The most recent attempt, whether the grade is higher or lower, is used to compute cumulative GPA and used for academic requirements; however, both the higher and lower grades in the course remain on the student's transcript.

Students may repeat a course only once without permission from the Provost Office. A request to take a course for the third time requires students to formally request permission by completing a form available online. Permission to take a course for a third time is not guaranteed and may require a meeting with the Dean or Program Director.

Students receiving Financial Aid should check with Student Financial Services regarding retakes of courses in which they have already earned a satisfactory grade. A student is not eligible to receive financial aid for repeating a course for the third time in order to achieve a better grade. The credits associated with the third repeat are not used in determining the student's enrollment status for purposes of financial aid. In all cases, a student can only receive Title IV funds for one repeat of a previously passed course.

PASS/FAIL OPTION (FREE ELECTIVES ONLY)

Undergraduate students may elect to take up to 6 courses in an academic degree program on the pass/fail basis. Only free electives may be chosen for the pass/fail option, and no more than two courses may be on that basis in a given semester. Request to take a course on the pass/fail basis must be made in writing on the appropriate form after registration in the course, but absolutely no later than the tenth day of scheduled classes in a regular semester, the fifth day for a ten-week course, or the third day for a five-week course. Students should review the complete regulations with their advisors before requesting the pass/fail option through the Registrar's Office.

INCOMPLETE WORK

Incomplete grades ("I" or "R") must be re-

Academic Regulations and Procedures

corded by the date stipulated by the Registrar at the end of the semester. No incomplete will be so recorded by the Registrar unless it is accompanied by a clear indication from the course instructor of the nature of the work to be made up. The Registrar will provide appropriate forms with grade sheets. This information will be placed in the student files.

- a. An "I" (incomplete) grade designates incomplete work in a course at the time of grading for reasons beyond the student's control and determined to be bona fide by the instructor. These would include absence from a final examination or inability to complete terminal assignments due to illness, employment conflicts, etc. In such cases where the "I" grade is awarded the incomplete will revert to a failing grade if the unfinished work is not satisfactorily completed by the end of the semester immediately following the one in which the incomplete was granted, exclusive of the summer sessions.
- b. A grade of "R" indicates incomplete work in thesis, research, or undergraduate or graduate student project courses. The "R" grade must be removed within a period of time specified by the instructor/mentor/project advisor or director. It must be within the maximum time allowable for degree completion in the academic program where the degree is being sought.

"W" GRADE

No student may withdraw from a course without the knowledge of his/her academic advisor, as indicated by that advisor's signature on the change of schedule form or approval via the Drop/Add Web Form. Withdrawal "W" grades are assigned based on the following policy statements:

1. If a student officially withdraws from a course after the official change of registration period, but before the end of the official withdrawal period in a given semester or summer session, a grade of "W" is assigned and that course remains on the student's transcript. Courses with the grade of "W" do not count toward the QPR but do count toward "hours

attempted."

2. The names of students who have officially withdrawn from a course and received the grade of "W" are so listed on the class roster for the balance of the semester.
3. Withdrawals are not permitted beyond the course withdrawal deadline. After the deadline, students will receive an earned grade as determined by the instructor. If a student submits a withdrawal after the withdrawal deadline but prior to the semester ending, the student will have an automatic grade of "F" entered for their grade.

Academic Status of Students

Undergraduate

The following policies and standards define the minimum requirements for maintaining good academic standing in the undergraduate degree programs of the University. Higher requirements may be established by the faculty for specific programs, subject to approval by appropriate College committees, the appropriate senior administrator of the College or School and the Provost. Such requirements are described in the appropriate section of this catalog.

GOOD ACADEMIC STANDING

Good Academic Standing: A student whose Term GPA and Cumulative GPA are 2.0 or above.

The student who is not maintaining good academic standing will be permitted to remain in a degree program while attempting to re-establish normal academic progress, unless and until the student is subject to academic separation as described below.

A student may be awarded a degree only when all degree requirements have been satisfied. In particular, a student who has failed to maintain normal academic progress at some point, must have reestablished normal academic progress before a degree is awarded.

ACADEMIC WARNING

Academic Warning: A student whose term GPA is below 2.0 but the cumulative GPA is 2.0 or above.

ACADEMIC PROBATION

When a student's Cumulative GPA is below 2.0 but above the threshold for Academic Separation.

Academic Separation

The following policies and procedures apply to all students, both matriculated and special.

ACADEMIC PROGRESS STANDARD FOR ACADEMIC SEPARATION*

Total Credit Hours Attempted	Cumulative Grade Point Average
(Includes transfer credits)	
<19 (fulltime students only)	.75
1-24	1.50
25-48	1.70
49-90	1.85
91+	2.00

* Retaking a course does not count toward this total.

Maintaining satisfactory academic progress is essential in order to remain eligible for financial aid. Please refer to the financial aid section for further information on maintaining eligibility for financial aid.

NOTIFICATION

A student will be notified of his/her separation before the beginning of the following semester. It is, however, the student's responsibility to be aware of his or her academic status at all times.

APPEALS

Actions taken under the regulations pertaining to Academic Separation may have an immediate impact on a student's eligibility for financial aid. Students may appeal actions taken pursuant to these regulations. Appeals must be submitted via online form one week after appeal notifications are sent. An appeal of separation from the University that is granted places the student in a conditional probationary status. The conditions of this status, including its maximum duration, will be specified in the Committee decision granting the appeal. Students are able to appeal Academic Separation decision up to 2 times. Students must wait a minimum of two semesters prior to resubmitting appeal.

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An appeal of separation from the University that is granted places the student in a conditional probationary status. The conditions of this status, including its maximum duration, will be specified in the Committee decision granting the appeal.

CONDITIONAL PROBATION

Conditional Probation: When a student's appeal is granted, he or she is placed on Conditional Probation status until their cumulative GPA reaches 2.0 or better, or until they are dismissed.

ACADEMIC DISMISSAL

Students will be academically dismissed from the University if:

1. they do not maintain academic good standing after readmission from academic separation;
2. they do not meet a course requirement(s) for selected degree(s);
3. they do not change major as appropriate based on denial of third attempt request;
4. they do not appeal academic separation status;
5. academic separation appeal has been denied;
6. they have committed a third academic dishonesty offense.

A student who has been separated from the University under the above provisions may apply for readmission to the University no sooner than two semesters after separation.

READMISSION

Students who are not on an official leave of absence and who wish to return to University of Bridgeport must complete a readmission form through the Registrar's Office via online forms. Students who wish to return to University of Bridgeport after 2 or more years may reapply through the Admissions Office.

Official transcripts of any colleges attended while the student has been away from University of Bridgeport must be provided. The Office of Admissions, the Office of Student Academic Success, the Dean of Students Office, and the Provost Office will determine the student's eligibility for readmission.

A student who is granted readmission to the university may not be guaranteed readmission to the major in which they were enrolled at the time of leaving University of Bridgeport. All students who are readmitted after leaving University of Bridgeport must comply with degree program requirements in effect at the time of readmission.

thesis based on independent research, or completion of an appropriate special project.

6. Graduate programs require that all grades applied toward the degree be "C" or better. The grade of "C-" cannot be used to satisfy degree requirements.

Probation and Separation Policy

1. The minimum cumulative grade point average necessary to continue graduate studies is 3.0 and the minimum semester grade point average to continue graduate studies is 2.0.

2. A student who does not meet either the semester or cumulative grade point average will automatically be placed on probation for the next semester of study.

3. A student placed on probation must meet the standard for continuation at the end of the probationary semester. Failure to meet the standard will result in automatic separation.

4. Separation from the Program of Study may be appealed to the Academic Appeals Committee of the Graduate Council. The appeal must be in writing and must be submitted within 15 days of notification of separation.

5. A student separated from a Program of Study may apply for re-admission to the Program after 1 semester from the date of separation from the Program.

6. A student may not be placed on probation more than twice. Failure to maintain a cumulative 3.0 grade point average or a semester grade point average of 2.0 a third time will result in automatic, non-appealable separation. Application for re-admission cannot be made sooner than 1 year after the date of separation.

ACADEMIC DISCIPLINE PROCEDURES

Consent To Plagiarism Screening

Students are expected to be familiar with and to comply with the University's policies prohibiting plagiarism as set forth in the Key

5. The requirements for a master's degree shall include at least one of the following: a comprehensive examination, a written

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to UB-Student Handbook. Some courses utilize electronic screening to detect plagiarism, e.g., Turnitin. These plagiarism screening programs analyze the extent to which students' submitted assignments constitute original content and compare students' submissions to an extensive network of web pages, articles, and other student work in their databases. Using these resources, these programs produce originality reports which categorize submission content, determining what percentage of each assignment matches text found in their databases.

By enrolling in course(s), students consent to the above-described plagiarism screening programs and may also be required to approve specific terms and conditions of use when submitting an assignment. Students also consent to retention of their submission in Turnitin or other plagiarism screening platforms, but retain full copyright of their submission.

Change of Status

FROM FULL-TIME TO PART-TIME

Students wishing to transfer from full-time to part-time status must secure the necessary forms from the Registrar's Office.

FROM PART-TIME TO FULL-TIME

Students wishing to transfer from part-time to full-time status must secure the necessary forms from the Registrar's Office.

Interruption Of Studies

WITHDRAWING FROM THE UNIVERSITY

Students who withdraw from all courses and thus from the University, must file an Application to Withdraw at the Office of the Registrar. Students must meet with the Dean of Students prior to submitting the withdrawal form to the Registrar.

If a student fails to register for a semester without being granted a leave of absence, or the leave of absence has expired, the student will be administratively withdrawn from the University.

Several University of Bridgeport's Schools, Institutes and Programs have policies governing leaves of absence from the particular school, institute or program, and students should refer to the relevant student hand-

should refer to the relevant student handbook for more information.

REGULAR READMISSION

A student who officially or unofficially withdraws from the University must apply for readmission. Readmission is necessary with any break in attendance for full-time students and after a break of more than one semester for part-time students. A student who withdraws officially, or unofficially, and subsequently applies for readmission is required to meet the degree requirements and conditions current at the time of readmission. Students who have attended another accredited institution in the interim must present complete official transcripts with their application for readmission.

Applications for readmission are available from the Registrar's Office.

READMISSION IN CASES OF DISCIPLINARY EXPULSION AND SUSPENSION

Disciplinary expulsion and suspension may be incurred as a result of unacceptable conduct. See the Key to UB for rules, regulations and procedures for readmission.

LEAVE OF ABSENCE

Students who must discontinue enrollment for less than one academic year and who have a commitment to return to the University must submit a written request for a Leave of Absence to the Office of the Registrar. A copy of this request must also be sent to the Dean or Director of the student's program. Students who are in good academic standing and who have met all University requirements may return to the University at the beginning of any semester within the one-year Leave of Absence period.

A leave of absence may be extended for an additional year upon approval of the program Dean or Director. A written request is required for consideration of an extended leave of absence and the leave will be noted on the student's permanent record.

Several University of Bridgeport's Schools, Institutes and Programs have policies governing leaves of absence from the particular school, institute or program, and students should refer to the relevant student hand-

book for more information.

FIVE YEAR RULE FOR UNDERGRADUATE STUDENTS

Students who interrupt their studies for a period exceeding five years must obtain written permission from the Dean of their College or Director of the School to apply previously earned credits toward their degree.

CARNEGIE UNIT OF CREDIT

Note: The application of the Carnegie unit of credit has implications for graduation requirements, transfer credit policy, faculty load and for measuring program hours/income. The Carnegie Unit of Credit provides a guideline on the amount of time that a student is expected to dedicate to a one semester hour course in order to receive one semester hour of academic credit. The University of Bridgeport calibration of the Carnegie Unit of Credit is as follows:

Onsite Lecture Classes: To receive one semester hour of academic credit, the student is expected to attend a 50 minute lecture class per week and spend approximately two hours on assignments and study outside of the classroom throughout a fifteen week semester.

Online or Blended Learning Classes: Through Canvas or other online tools and blended learning, students would be expected to complete 2.5 hours of activities per week over fifteen weeks to receive one semester hour of academic credit. This would include activities such as reading and responding to posted course materials, discussion board postings, and Canvas discussions.

Onsite Activity-based Classes: One hour and forty minutes of engagement in discipline-based activity and fifty minutes of study per week throughout fifteen weeks.

Clinics, Studios and Laboratory-Based Class: 2.5 hours of laboratory, clinical or studio activity per week for 15 weeks.

Independent Study: 2.5 Semester hours of Study per week over a 15 week Semester.

Other Forms of Learning: Academic credit based on a demonstration of competency in defined academic outcomes will be the exception and will be based on accepted instruments approved by the Deans and

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Program Chairs. These can include CLWEP, CLEP tests, or examination of a portfolio by trained academics in the discipline in which the student seeks credit.

In all of these learning formats, contact hours and/or study/assignment hours would be increased each week in a summer or concentrated session to assure compliance with unit of credit guidelines.

Approved by University of Bridgeport Senate, November 30, 2010.

Off-Campus Study

Matriculated students are expected to take the courses for their degrees at the University of Bridgeport. Permission to take courses at other institutions for transfer credit will be given only for good and valid reasons and must be approved in advance and in writing by the student's advisor. Permission will not be granted for courses currently offered by the University or courses within the last thirty semester hours before graduation, or for courses previously failed at the University.

Matriculated students may not take courses at junior or community colleges for transfer credit at the junior or senior level toward their degrees.

CREDIT FOR LIFE WORK EXPERIENCE (CLWEP)

Some students acquire mastery over course subject matter through prior work or training experience. Many departments have developed examination and other assessment procedures to provide the possibility of credit for those experiences which correlate to specific course offerings in the University Catalog.

CLWEP credit may not be used to satisfy the minimum University 30-hour residency requirement. CLWEP credit is included in the student's semester hours earned at the University and also in the total number of UB hours used to determine eligibility for graduation honors. However, such credit is not computed in the student's quality point ratio at the University. Information on subject matter and evaluation procedures is available in the office of the Provost.

COLLEGE LEVEL EQUIVALENT

PROFICIENCY EXAM (CLEP)

The University of Bridgeport participates in the Educational Testing Service's College Level Equivalent Proficiency Exam program. The basic purpose of this program is to give the student and non-traditional learner a means for assessing their levels of achievement and for requesting college credit for such achievement.

Undergraduate students may earn up to 30 semester hours of credit (one year's studies) by demonstrating subject area competence through testing. CLEP credit may not be used to satisfy the minimum University 30-hour residency requirement. CLEP credit is not included in the student's credit hours earned at the University of Bridgeport and is not computed in the student's quality point ratio at the University. CLEP credit is not considered in the total number of UB hours used to determine eligibility for graduation honors.

Information on subject matter and testing procedure is available in the office of the Provost.

ADVANCED PLACEMENT

A student may enter the University of Bridgeport as a freshman, but with advanced standing toward a degree. Advanced standing may be achieved by taking the Advanced Placement examinations administered by the College Entrance Examination Board. A score of three or above allows the student to earn up to eight credits in one subject area. Well qualified students may also earn advanced placement by taking courses for college credit while in secondary school. Information regarding Advanced Placement is available in the Office of Admissions.

Academic Honors

PRESIDENT'S LIST

A full-time student who, in a given semester, completes 12 or more semester hours with a quality point ratio of 3.7 or higher and with no incomplete grades is named to the President's List at the end of that semester. A part-time student who is matriculated and who, during a regular academic year, completes 12 or more semester hours with a quality point ratio of 3.7 or higher and with no incomplete grades is named to the President's List at the end of the academic year.

DEAN'S LIST

A full-time student who, in a given semester, completes 12 or more semester hours with a quality point ratio of 3.2 or higher and with no incomplete grades is named to the Dean's List at the end of that semester. A part-time student who is matriculated and who, during a regular academic year, completes 12 or more semester hours with a quality point ratio of 3.2 or higher and with no incomplete grades is named to the Dean's List at the end of that academic year.

NATIONAL HONOR SOCIETIES

Honor societies include Phi Kappa Phi, all University; Beta Alpha, accounting; Delta Mu Delta, business administration; Sigma Phi Alpha, dental hygiene; Alpha Sigma Lambda, part-time students; Pi Gamma Mu, international and national social science; Eta Kappa Nu, electrical engineering; Upsilon Pi Epsilon, computer science; and Sigma Xi, research and scholarship; Lambda Pi Eta (The National Communication Studies Honor Society); Theta Alpha Kappa (The National Religious Studies Honor Society); Pi Sigma Alpha (The National Political Science Honor Society); Sigma Iota Rho, The Honor Society for International Studies; Phi Sigma Lota (Honor Society of Languages), Alpha Phi Sigma (Criminal Justice Honor Society).

Requirements for Undergraduate Degrees

The stipulations in the list immediately below are only those which are common to the awarding of the Bachelor's degree. However, requirements specific to each College or School and to individual curricula and disciplines within each College or School also exist. The student must be especially careful to note all of these, since fulfillment of graduation requirements is the individual student's responsibility. No permission for deviation from published requirements is official unless it is made in writing and signed by the senior administrator of the College or School from which the degree is sought. It is recognized that the requirements for graduation in individual Schools may change. A student must meet the requirements for graduation which are current at the time of graduation, and consistent to the greatest extent possible

Academic Regulations and Procedures

with the degree requirements in existence at the time of the student's entry into the major. However, whenever a program is altered it is the University's responsibility to translate the student's previously completed work into the new program requirements so that the continuously enrolled student is not penalized for the adaptation. The only exception would be when the state or other licensing agency imposes a new requirement. The common requirements for awarding the Bachelor's degree follow.

A student must:

1. Have been admitted as, or have achieved the status of, a matriculated student in the College, and must have attained upperclass or major status.
2. Have completed the last thirty semester hours of work toward his or her degree under the direct auspices of the University. Under exceptional circumstances, the senior academic administrator may slightly modify this requirement.
3. The student must earn a grade of "C-" or better in every major course. However, the student's overall quality point ratio in major courses must be at least 2.0. In some cases, departmental requirements may exceed these minimums.

If a student earns a grade of "D" or "F" in a course in the major field, he or she retake that course and earn a "C-" or better. The student must have earned the number of semester hours of credit required by the College or School and must not deviate from the curriculum as displayed in this catalog without the written approval of the appropriate senior academic administrator or his/her designate.

UNDERGRADUATE GRADUATION HONORS

Candidates for graduation who have completed at least sixty semester hours of academic course work at the University of Bridgeport in their junior and senior years are eligible for honors upon recommendation of the appropriate College faculty. The following standards are used:

1. The Bachelor's degree cum laude may be awarded to a student whose cumulative quality point ratio is at least 3.40.

2. The Bachelor's degree magna cum laude may be awarded to a student whose cumulative quality point ratio is at least 3.60.
3. The Bachelor's degree summa cum laude may be awarded to a student whose cumulative quality point ratio is at least 3.80.

The Associate's degree may be awarded cum laude to a candidate with a minimum quality point ratio of 3.2 and magna cum laude to those with 3.5. A minimum of 45 semester hours must have been earned at the University of Bridgeport.

Commencement Participation Form for Graduation (both Undergraduate and Graduate)

The University of Bridgeport holds one Commencement Ceremony in May. Students who have completed all degree requirements are eligible to participate in the May Commencement Ceremony. Students do not have to apply to graduate but must confirm their interest in participating in the ceremony after being pre-certified by faculty. Designated faculty within each academic program will pre-certify a student's eligibility to graduate prior to the mid-point of the semester from which a student is graduating.

A graduation fee of \$150 per degree is assessed upon per-certification, whether or not a student participates in the ceremony.

Diplomas are mailed to the confirmed address by the student within 30 days after the certification of degree has been completed at the end of the term for which a student is graduating. Release of diplomas is dependent on all graduation requirements and financial obligations to the University of Bridgeport (including Perkins Loans) being satisfied. If you have a change of address during the course of the graduation process, please completed the Change of Address webform via the student UB portal, so that your records can be updated. However, an email will be sent out to your UB email address asking the confirmation of the mailing address on file before the diploma and complimentary transcript are mailed.

Transcripts

The University of Bridgeport has authorized Parchment, Inc. to provide transcript ordering online. You can order transcripts using any major credit card. Your card will only be charged after your order has been completed.

To order an official transcript(s), login to the Parchment Exchange secure site via the student portal for active UB accounts or via www.parchment.com for inactive UB accounts. The site will walk you through placing your order, including delivery options and fees.

You can order as many transcripts as you like in a single session. A processing fee per recipient. Order updates will be emailed to you. You can also track your order online.

The Core Curriculum

The University holds that professional and applied studies, and later success in careers, require a sophisticated and learned grasp of the artistic, communicative, cultural, social, historical and scientific achievements of the world; and that all learners and professionals should be able to interpret these domains and to communicate about them clearly and persuasively. All colleges and universities in the State of Connecticut are required by the Office of Higher Education to mandate that General Education courses compose "33 percent of the minimum requirements for the baccalaureate degree." The University of Bridgeport fully supports the educational philosophy behind this mandate.

The University of Bridgeport also believes that General Education should reflect the University's educational mission. The General Education's Core Curriculum draws upon the best traditions of American education and seeks to stimulate creativity, intellectual growth, and development of analytical thinking; but it also advances UB's distinctive educational outlook, which is international in character and commitment. Thus the University requires that a large majority of the forty required credit hours of General Education be distributed within its Core Curriculum and allows the remaining to be taken as Liberal Arts electives. "Liberal Arts" encompass any course that is not designed primarily for skill or knowledge acquisition in a specific profession or field of work and generally includes the humanities, social sciences, natural sciences, and mathematics. **The total number of General Education credit hours on a student's record must be forty or higher and must satisfy the Core requirements.**

The required distribution of Core courses through a range of disciplines reflects the mission of the University of Bridgeport. In particular, courses from disciplines are chosen because they encourage reflection upon the interdependent nature of the world, contribute to global awareness, and encourage interdisciplinary modes of integrative learning. All classes in this curriculum contribute to academic development and lay the groundwork for success in graduate schools or students' chosen professions. The Core Curriculum represents what is best and distinctive about the University of Bridgeport.

THE UNIVERSITY'S CORE CURRICULUM HAS THREE DIMENSIONS:

1. Skills
2. Heritage
3. Seminars

I. THE SKILLS SECTION

Skills classes help students learn how to think clearly, write effectively, and communicate accurately and persuasively. These courses, normally taken in the first semester, lay the foundation for all further study. The University of Bridgeport requires competency for such skills through successful completion or placement out of two such courses: one in composition, the other in mathematics. (Note: Placement out of any course requires an equal number of credits to be completed in other approved liberal arts coursework toward the minimum forty required credit hours of General Education.)

English: English 101

Math: Math 102, 103, 106, or 109

235X, 280

- THA 103, 133
- Select Honors courses, as approved. See Registrar or Honors Program Director for details

Six Hours of Humanities: two of the following courses. Courses from different disciplines are recommended.

- ENGL 102, 105A, 105B, 110, 180, 197, 207, 208, 209, 210, 212, 213, 215, 216, 220, 223, 228, 233, 252, 305, 322, 325, 330, 332, 357, 395
- HIST 100 (three 1-credit sections must be taken during the same semester), 222, 223, 228, 232, 233, 305, 335, 336
- HUM C201, 300
- MUSC 230X
- PHIL 101, 103, 104, 110, 203, 205, 210, 211, 213, 235, 323, 340
- PSCI 323, 324
- WREL 101, 102, 103, 204, 205, 207, 208, 209, 216, 221, 229, 230, 299, 301, 305
- Select Honors courses, as approved. See Registrar or Honors Program Director for details

Six Hours of Natural Science: six hours met by any combination of the following courses and/or upper-level lab science courses for which students meet the prerequisites.

- BIOL 106, 111, 113, 114
- CHEM 103, 104, 113, 114
- GEOL 105, 205
- PHYS 103, 111, 112, 201, 202
- SCI C101, C102, C106, 107, C201, C202, 204, C206
- Select Honors courses, as approved. See Registrar or Honors Program Director for details

Six Hours of Social Science: two of the following courses. Courses from different disciplines are recommended.

- CJHS 118
- ECON 201, 202

The Core Curriculum

- HIST 101, 102, 207, 208, 230, 240, 241, 242, 303, 304, 316, 317, 341, 361
- HSCI 210
- PSYC 103, 201, 202, 240, 303, 375
- PSCI 101, 103, 203, 204, 206, 207, 208, 209, 215, 233, 299, 373
- SOC 101, 102, 118, 204, 231, 270, 310, 311, 315, 348
- SOSC 207
- WREL 348, 373
- Select Honors courses, as approved. See Registrar or Honors Program Director for details

III. SEMINARS: FIRST YEAR SEMINAR AND CAPSTONE 390

The thematically focused First Year Seminar (FYS 101), taught with common student learning outcomes to all freshmen, is taken during the first semester of study. This seminar introduces students to the academic values of a university education while inculcating habits of learning that will serve them throughout their undergraduate education and beyond. Through this seminar experience, students establish a foundation upon which the rest of their university education stands.

The Capstone Seminars, CAPS 390, provide an academic context in which the skills and content of the other courses in the General Education Curriculum can be synthesized and integrated. The Capstone is the “crowning achievement” of the General Education Curriculum. As such, the seminars are limited to juniors and seniors who have completed at least 75 semester credit hours and all required hours within in the Skills and Heritage sections of the Core Curriculum. No exceptions will be granted to this policy.

CORE CURRICULUM OUTCOMES

The following lists of student learning outcomes contains the common elements for any course that fulfills the University of Bridgeport's First Year Seminar, Capstone, Humanities, Fine Arts, Social Science, or Natural Science requirement in the General Education Curriculum.

FYS

1. Students will demonstrate ability to communicate at a first-year college level, in both oral and written language.
2. Students will demonstrate ability to use reasoning in assessing ideas, values, and beliefs of oneself and others.
3. Students will demonstrate understanding of core information literacy knowledge practices, including standards of academic integrity, by conducting effective research to locate quality sources that fit their specific research needs.
4. Students will demonstrate understanding of the tools necessary for succeeding in college-level academic courses.
5. Students will demonstrate ability to locate and use academic and student support services of the University such as advising, tutoring, counseling, career development, and other related services.
6. Students will demonstrate understanding of the processes and requirements for successful completion of a degree.
7. Students will demonstrate engagement in activities that promote a sense of community as well as of individual purpose in developing personal, civic, and/or professional identity.

CAPSTONE

Students will identify and complete individual or group projects focused on something relevant to their major programs or career goals (such as case studies, business plans, research papers, artwork, design concepts, engineered products, policy proposals, community organizing, poems/stories, or the like).

1. Students will demonstrate qualitative and quantitative research methods, as the topics allow, in their projects.
2. Students will present their substantive projects to an identified audience, using appropriate media (audio, visual, demonstrative, written, oral, etc.)
3. Students will use multidisciplinary sources to provide contextual significance of their projects within broader political,

industrial, or social frames.

4. Students will gather quality information sources that establish their authority over the content of their presented projects.

HUMANITIES

Upon completing a 6-credit requirement in the Humanities (two HU-designated courses), students will be able to understand and appreciate the role of literature, philosophy, religion, and/or history in shaping human culture and helping us make sense of our world. Students will demonstrate this by being able to:

1. Apply historical, interpretive and/or analytical methods to explore the human condition.
2. Demonstrate in speaking and writing the ability to present well-grounded interpretations of complex literary, historical, cultural and philosophical bodies of knowledge.
3. Reflect upon human life, experience, existence, value, purpose and meaning in a globalized world.
4. Conduct scholarly research to identify and evaluate authoritative sources that identify significant literary, historical, cultural, and/or philosophical aspects of the human experience.

FINE ARTS

Upon completing a 3-credit requirement in the Fine Arts (FA-designated courses), students will develop a basic appreciation for creative and performing arts, including visual art, music, theater, or film and be able to:

1. Analyze critically and interpret objects of art for their imaginative, aesthetic, or intellectual content.
2. Analyze creative art forms to explore human experience and critique, challenge and consider the effect on the nature of society.

SOCIAL SCIENCES

Upon completing a 6-credit requirement in Social Science (two SS-designated courses) students will understand and be able to evaluate the theoretical foundations that underpin the disciplines of economics, history,

The Core Curriculum

political science, psychology, or sociology and demonstrate that understanding by being able to:

1. Apply empirical methods, including quantitative and qualitative designs, to investigate and explain social phenomena in the pursuit of producing new knowledge.
2. Evaluate larger social problems challenging contemporary society as well as the policies and action designed to address these challenges.
3. Research, identify and evaluate authoritative sources that utilize social scientific methods and/or theoretical perspectives.

tive course must be taken at the University of Bridgeport. The University of Bridgeport First Year Seminar is not required of transfer students who enter with 30 or more credits.

NATURAL SCIENCES

Upon completing a 6-credit requirement in Natural Sciences (two NS-designated courses) students will demonstrate competence in the following two areas:

1. Knowledge of factual content and major concepts in at least one scientific discipline – Students will be able to:
 - a. Make connections between scientific concepts and everyday phenomena, real life applications and contemporary global issues.
 - b. Identify and interpret scientific information presented in a credible media source or an article of scientific journalism.
2. Implementation of key attributes of the scientific method of inquiry – Students will be able to:
 - a. Design, conduct and interpret laboratory experiments to test a hypothesis and reach conclusions.
 - b. Interpret and manipulate quantitative information to arrive at appropriate conclusions.

NOTE ON COURSE TRANSFER POLICY

The University allows twenty-seven hours of the General Education Curriculum distribution hours to be transferred from other universities. The Capstone Seminar and at least one additional General Education elec-

Experiential Learning and Internships

The University of Bridgeport offers an extensive experiential education program, allowing students to combine classroom study with practical experience within their chosen field. Internships and other experiential learning experiences provide a practical application of academic studies in combination with opportunities to learn material that go beyond the classroom. Performing internships, performing a job shadow or participating in a mentorship opportunity offer the additional experience and development of skills, which aid in the overall career readiness of the student.

TYPES OF EXPERIENTIAL OPPORTUNITIES

Paid, Unpaid, Volunteer Internship

Credit Based Internship (*usually 1-3 credits*)

Cooperative Education Experience

Volunteer/Community Service

Special Programs (*Job Shadow, Mentorship, Student Leadership Institute*)

Student Employment/Graduate Assistantships/PHD Awards

QUALIFYING FOR AN INTERNSHIP

Students are able to perform internships throughout their academic career. Most posted opportunities will provide a list of qualifications which should be reviewed for specific GPA, major and class level requirements. Students are encouraged to participate in more than one opportunity to gain a variety of diverse professional experience.

For credit-based roles – a student should consult with their assigned academic advisor, to learn specific departmental criteria for performing an internship. In most majors, a student must be a Junior or Senior Standing with a 2.5 GPA (undergraduate) and hold a 3.0 GPA for graduate studies.

CAMPUS RESOURCES

Center for Career Development (<https://www.bridgeport.edu/student-life/career-development>)

Academic Departments (<https://www.bridgeport.edu/academics/programs>)

Office of Campus Activities and Civic Engagement (<https://www.bridgeport.edu/>

student-life/campus-activities)

Office of Student Employment (<https://www.bridgeport.edu/life/student-employment>)

INTERNSHIP QUALIFYING CRITERIA

In order for an internship to be approved by the University, the following criteria must be met. This criteria is set to protect University of Bridgeport students, and ensure valuable and educational experiences through internships and experiential opportunities.

- A designated supervisor is identified to provide the intern with guidance.
- Projects and tasks have been developed to give the intern legitimate work which will allow them to gain professional experience applicable to the industry.
- Intern responsibilities relate to their particular course of study or desired interest area.
- The intern does not displace regular employees, and works in close proximity to a full-time employee.
- The internship experience is for the benefit of the intern and does not solely advance business operations.
- Feedback is provided by the intern supervisor throughout the internship term, including completion of an Internship Evaluation provided by the University of Bridgeport.
- Clearly defined goals and learning objectives are identified which closely align with the intern's course of study or desired interest area are developed.

UNPAID INTERNSHIP, DEPARTMENT OF LABOR (DOL) GUIDELINES

In 2018, the Department of Labor (DOL) released new guidelines for determining whether an individual or opportunity classifies as an unpaid intern. The new model is called the “primary beneficiary test,” which takes a more straightforward approach by asking, “who benefits from the relationship most, the employer or the intern?”

The test is based on seven criteria:

- Any promise of compensation, express

or implied, suggests the intern is an employee—and vice versa.

- The internship provides training similar to what would be given in an educational environment.
- The extent the internship is tied to coursework or academic credit.
- The extent the internship accommodates academic commitments according to the academic calendar.
- The internship's length provides the intern with beneficial learning.
- The intern's work complements, not displaces, the work of paid employees while still educating the intern.
- The intern and employer understand the intern is not entitled to an offer for a paid job at the end of the internship.

The DOL states these factors are flexible, so the final decision on whether the intern is an employee depends on the specific case. If the intern is deemed an employee, he/she is eligible for minimum wage and overtime pay under the Fair Labor Standards Act (FLSA).

CURRICULAR PRACTICAL TRAINING (CPT): INTERNSHIPS FOR INTERNATIONAL STUDENTS

Any international student, who performs work OFF CAMPUS, must complete Curricular Practical Training documentation PRIOR to beginning work. Any concerns or questions should be addressed to the International Center for Students and Scholars. Guidelines Include:

- You may not take part in CPT while holding student employment in any department at the university. You may either choose CPT or student employment. You CANNOT have both.
- Your CPT must be within 100 miles from The University of Bridgeport if done during the spring or fall semester. If CPT is done during the summer, there is no mile restriction. However, you will not be able to extend the employment during the fall or spring semester if your internship is more than 100 miles away from campus.
- You may not have any holds on your

Experiential Learning and Internships

account (Bursar, Health, etc.)

- GPA minimum Requirements: Undergraduate 2.5, Graduate 3.0.
- You must complete two semesters as a full time UB student to qualify for CPT. (Summer semesters do not count.)
- You may not have any pending grades.
- Your financial balance must be a maximum of \$500.
- Your internship/co-op duties must be directly related to your major.
- If this CPT is done during the winter or summer break, you must pre-register for the Spring or Fall semester.
- Do NOT work until you get the CPT I-20 and until the start date is in effect.

agement are allowed to start their CPT only after they write their dissertation proposal and pass its oral defense (excluding CPT summer session). Ph.D. students in Computer Science and Engineering or Technology Management are allowed to start their OPT only after the successful completion of the dissertation defense.

CPT APPLICATION PROCESS

- Visit ISS website at <https://ic.bridgeport.edu/employment/cpt/> for eligibility and all necessary documents.
- If you are eligible, please scan/email to cpt@bridgeport.edu the following documents to be reviewed by ISS:
 1. Job offer letter printed on a letterhead and signed/dated by your employer (Electronic signatures are not acceptable); It must include all required information as listed below.
 2. Cooperative Education/Internship Agreement signed by your prospective employer.
- Once your documents are approved, an ISS advisor will schedule you an appointment for CPT processing and instruct you to visit your Academic Department and Career Development for signatures.
- At the time of appointment, please bring all required and completed documents outlined on the ISS website.

Please note: If you have questions about your eligibility for CPT, please email cpt@bridgeport.edu with your full name and UB ID included using your UB email account.

In addition to the general requirements stated before, Ph.D. students in Computer Science and Engineering or Technology Man-

University Library

Wahlstrom Library
126 Park Avenue, Bridgeport, CT 06604
Telephone: 203-576-4745
Fax: 203-576-4791
Website: <https://library.bridgeport.edu/>

PHYSICAL SPACE

The Wahlstrom Library is centrally located on campus near the end of the beautiful Park Avenue where Seaside Park begins. The Library is open seven days a week often until Midnight or later. Students and faculty are offered a full range of services in a large, 4 floor space that facilitates both individual and collaborative study. 80 Computer workstations are available, as well as wireless for students with mobile devices, docking stations, 20 loaner laptops, an adaptive technology room, copy machines and printers, collaboration rooms, and fully equipped "Smartrooms" with electronic whiteboards and the potential for multiple devices to project.

PRINT COLLECTIONS

The Wahlstrom Library print collections are located on the 3rd floor of the Library building. Two Self Check Machines are available so students can check items out, and Librarians are located on the floor to assist in locating and checking out items. Special collections of archival and historical material are available for use as well by appointment.

DIGITAL LIBRARY

The Wahlstrom Library extends its traditional services through its Digital Library, One-Search which is available at <https://library.bridgeport.edu>. The Digital Library includes an integrated search platform, linking between products, and millions of electronic journal articles, ebook chapters, reports, conference proceedings, data, protocols, lists of experts, and wire and newsfeed announcements. Subscribing to more than 80 major research databases, electronic tutorials are provided to assist in the use of individual products and features, and digital Inter-library loan services exist for when students or faculty need an item not found within the Digital Library in full-text.

INFORMATION LITERACY INSTRUCTION

The Wahlstrom Library supports the University and General Education Committee commitment to producing an information literate student body. An experienced staff of Librarians works closely with faculty to develop curriculum and assessment tools so that when students graduate and join their chosen professions, they are prepared to join the scholarly conversations and debates taking place in the published research and literature of those fields. The Wahlstrom Library approach reflects a strong commitment to the Threshold Concepts from the Association of College & Research Libraries as well as Evidence Based Medicine Best Practices for graduate level Health Sciences programs. Instruction Librarians deliver instruction in the classroom, online and in the Library and are available during the Spring and Fall Semesters from 8 AM – 10 PM Monday – Thursday, 8 AM – 7 PM Friday, 9 AM – 5 PM Saturday, and 2 PM – 10 PM Sunday. To contact a librarian or to ask a question, email reference@bridgeport.edu, call 203-576-4747 or chat with us from the Ask a Librarian page on the library website at <https://library.bridgeport.edu/ask/>.

Support Services

Wahlstrom Library 2nd floor

Heckman Center for the Bridgeport Plan

Office of Civic Engagement

The Office of Civic Engagement is dedicated to engaging students in civic action, providing voter education material and programming, centralizing resources and communicating community partnership opportunities. This office serves as a catalyst for students, staff, faculty, and administrators to connect with, build, and sustain meaningful service initiatives in the greater Bridgeport area.

SERVICES

The Office of Civic Engagement connects and supports individual students with direct service opportunities, coordinates small groups, and campus wide service projects.

Community Work Study Program: Students with federal work study are eligible to be placed with an off-campus community partner where they will gain work experience in an office setting, provide program and operation support, or directly work with youth programs.

Voter Registration and Education: Assist students with the registration process and provides nonpartisan educational programming.

Career Development

Career Development has a crucial role in preparing students for life after college and in helping alumni through career transitions. We engage freshman through alumni in career preparation and continuing development while providing opportunities for success in a global workplace. We partner with employers to promote and facilitate UB internships and hiring. The mission of Career Development is to prepare students for their career journey, connect students to career opportunities, influence UB's reputation via outreach and outcomes, and Advantage UB via strategic partnerships.

SERVICES

Career Closet

Career Exploration & FOCUS 2

Internship Search & Handshake Review

Employment Search & Handshake Review

Resume Review; Level I: Introduction

Resume Review; Level II: Graduate students and alumni with 2+ years of professional experience

LinkedIn Support

Cover Letter Assistance

Practice Interview

Office Of Student Leadership

The Office of Student Leadership offers several opportunities for students to explore and develop their leadership potential. All leadership opportunities on campus are rooted in our core leadership competencies in order to allow students to build necessary skills to be in successful student-leader, as well as a successful professional upon graduation.

SERVICES

The Student Leadership Institute, the Annual Student Leadership Conference, and a variety of Student-Leadership positions across campus are just a few ways University of Bridgeport students of all levels develop self-awareness, learn strategies to improve leadership skills, and directly apply competencies to their daily life.

Student Support Services

The Student Support Services Program (SSS) is funded by the Federal TRIO Programs and is designed to identify and provide services to a selective group of college students who meet eligibility criteria. All of our services are available at no cost with the intent of assisting students in accomplishing their goal of graduating from UB.

SERVICES

Academic Assistance to help students develop a plan to achieve their academic goals and to meet their individual needs. Career Planning to work with students to recognize career options and to design a strategy for realizing their career goals.

One-on-One and Small Group Tutoring for reading, writing, study skills, mathematics, science, and other subjects.

Group Study Sessions (Supplemental Instruction) for courses that are challenging for many students.

Workshops and Seminars on topics such as note taking, time management, developing good study habits, overcoming test anxiety, and stress management, are just a few.

Financial Aid Guidance to educate students about their financial aid options, the process of applying for financial aid, and their responsibilities.

PROGRAM REQUIREMENTS

The student must be committed to do the following:

Meet with the academic counselor and learning specialist at least three times each semester. The first meeting must take place within the first four weeks of the semester.

Attend the orientation/welcome back event at the beginning of each semester.

Attend a minimum of two SSS sponsored events/workshops each semester.

Office of Student Academic Success

The Office of Student Academic Success is dedicated to assisting students at the University of Bridgeport as they navigate the university. The Office provides support through advising services, tutoring, supplemental learning, and academic recovery.



COLLEGE OF SCIENCE AND SOCIETY

College of Science and Society

Dean: Kathleen Engelmann
Charles Dana Hall, Room 148
E-mail: kengelma@bridgeport.edu

Mission Statement

The mission of the College of Science and Society is to provide students with education of high quality in the knowledge, skills and values that will enable them to achieve success in their professions and become meaningful contributors to society. The School is committed to an interdisciplinary approach in its curricula while offering students opportunities for experiential learning, internships, and community service.

Our programs are designed with attention to the institutions we serve. The education we offer features acquisition of fundamental knowledge in a wide range of fields and an application-oriented approach to issues that are progressively more interdisciplinary.

Vision Statement

The vision statement serves as a guide in the development of the school's programs and overall educational initiatives. The School of Arts and Sciences will provide students in its programs with:

Competence — i.e. knowledge and skills necessary to enable them to enter the work force, or to undertake graduate study, with success.

Critical Thinking — i.e. techniques of applied logic, categorization, and criticism which result in clear thinking, sound analysis, and balanced judgment.

Creativity — i.e. qualities of imagination, originality, curiosity, and daring.

Context — i.e. awareness of the historical, social, intellectual, environmental, and cultural setting appropriate to the field of study.

Communication — i.e. ability to express themselves lucidly and to present ideas effectively and distinctively, both formally and informally, orally, visually, literately, and musically.

Candor — i.e. honest standards, consistency in implementing them, and fair evaluation of achievement.

Concern — i.e. regular support and individual attention to all students, with additional opportunities for those who excel and remedial strategies for those who need them.

Facilities

Programs within the College of Science and Society are located in several buildings across the University of Bridgeport Campus. These include Bates Hall, Bryant Hall, Carlson Hall, and Charles Dana Hall.

Accreditation

All degree programs in the College of Science and Society are licensed and accredited by the State of Connecticut Office of Higher Education.

Degree Programs

Biology (B.A., B.S. M.A., M.S.)

Criminal Justice and Human Security (B.A.)

Counseling (M.S.)

Criminal Justice and Human Security (M.A.)

English and Professional Writing (B.S)

Fashion Merchandising (A.A. and B.S.)

General Studies (A.A. and A.S.)

General Studies (B.S.)

Global Development and Peace (M.A.)

Global Media and Communication Studies (M.A.)

Graphic Design (B.F.A.)

Humanities (B.A. and B.S.)

Human Services (B.S.)

Industrial Design (B.S.)

Interior Design (B.S.)

International Political Economy and Diplomacy (B.A.)

Mass Communications (B.A.)

Mathematics (B.A. and B.S.)

Music (B.Mus)

Political Science (B.A.)

Psychology (B.S.)

Social Sciences (B.A.)

Divisions within the College of Science and Society

The following divisions are housed within CSS: the Division of Natural Sciences, the Division of Behavioral and Social Sciences, and the Division of Arts and Humanities. All three divisions support both degree programs and the general education courses that make our university possible.

The Division of Natural Sciences prepares students for careers in the mathematical and life sciences. The Division of Behavioral and Social Sciences prepares students for careers as helping professionals or other careers that require strong interpersonal skills. The Division of Arts and Humanities prepares students for careers that require analytical and creative thinking, strong writing, communication, performance, and presentation skills, the ability to collaborate effectively, to complete self-directed projects, and flexibility to adapt to new challenges.

The Accelerated Degree Completion Program

Wahlstrom Library, Garden Level
Telephone: (203) 576-4800

The Accelerated Degree Completion program was an early pioneer in degree-completion programs for adult learners, beginning in 1988. This program gives adults age 23 or over the opportunity to complete a bachelor's degree at a convenient time and place. Courses are mostly offered in five- and eight-week terms – one meeting per week – nine sessions per year in various formats; evening, weekend and online.

College of Science and Society

Programs of Study

The degree completion program offers CSS degrees in:

- A.A. in General Studies
- B.S. in General Studies Social Science concentration
- B.S. in General Studies Online Social Science concentration
- B.S. in Human Services
- B.S. in Human Services & Psychology (Double Major)
- B.S. in Psychology
- Certificate in Human Resource Management

Minors

The College of Science and Society supports a number of minors (18 credits each), which students from the University of Bridgeport may pursue in addition to their major.

English Language Institute

Carlson Hall
303 University Avenue
Telephone: (203) 576-4860
Website: <http://www.bridgeport.edu/eli>

GENERAL INFORMATION

The English Language Institute of the University of Bridgeport offers an intensive program of English as a Second Language. ELI also organizes off-campus trips and on-campus activities designed to introduce international students to the United States, its language and its people.

ELI classes are offered year round, Monday through Thursday. Full-time students attend class in the mornings and afternoons. Part-time students can choose to attend mornings or afternoons. For full-time students, a typical day consists of 5 hours of instruction, including classroom instruction in grammar, composition, reading, listening, and speaking, and assigned work in the university's state-of-the-art language laboratory. ELI provides highly individualized instruction. Classes are limited to 15 students per teacher.

ELI students receive a University of Bridgeport student I.D. card and are entitled to use facilities on the campus of the University of

Bridgeport, such as the Wahlstrom Library and the Wheeler Recreation Center, to name a few.

ADMISSION

ELI students must have a strong personal commitment to learning the English language. Courses in English as a Second Language are offered year-round at all levels from beginner through advanced. ELI application forms and additional program information may be obtained at the above address or printed out directly from the ELI Internet address shown above.

Applicants must be at least 17 years old. Applications are accepted at any time of the year and new students may begin class throughout the year. International Admissions issues an official letter of admission to the program and an I-20 form promptly upon receiving a completed ELI application. After receiving the I-20 issued by ELI, the prospective student may apply for an F-1 student visa at an American embassy or consulate prior to coming to the United States.

WHY STUDENTS ENROLL AT ELI

Many students wish to enrich their knowledge of the English language while on leave from a school or a job in their home country. Most of these students return to their home country after a stay at ELI of from 14 weeks to a full year or more.

Many ELI students plan to apply for admission to a degree program at the University of Bridgeport. They improve their knowledge of English to meet the English language requirement for university admission. These students usually obtain "conditional acceptance" to a degree program and will receive full acceptance when they satisfy the University's English language requirement for admission. It should be noted that successful completion of ELI's advanced level satisfies the English language requirement for admission to the University of Bridgeport. ELI graduates are not required to take the TOEFL or IELTS.

THE CURRICULUM

The ELI curriculum focuses on improving skills in speaking, listening comprehension, writing, and reading. At all levels of the curriculum, ELI instructors seek to help students improve their language skills through active use of the language both in and out of the

classroom.

New students complete a placement test upon arrival and are placed in an appropriate level of English. Successful completion of the session allows the student to move up to the next level.

Students who are placed in the lower levels concentrate on basic grammar, speaking, listening, and reading skills, and practice paragraph writing. As students progress through the levels, they continue to improve their speaking and listening skills while taking on more challenging tasks in reading and writing.

In the advanced levels, students strive to achieve competence in language-dependent tasks similar to those that are required of native speakers of English in both academic and career-related activities. These include reading for content; note-taking from spoken and written materials; speaking skills needed to relate information, to persuade, to negotiate, and to inquire; and skills needed in essay and report writing, as well as in effective correspondence.

Graduates of ELI receive a "Certificate of Completion" which certifies that they have met the English language requirement for admission to the University of Bridgeport. Grades reports are issued upon request.

SCHEDULE OF CHARGES

Please see insert for current academic year for tuition, fees, and other expenses.

ELI students should plan on spending about \$300-\$400 per 14-week session to cover miscellaneous personal expenses such as recreational travel, local transportation, books, laundry, clothing, etc.

APPLICATION FORMS AND ADDITIONAL INFORMATION

Prospective students may obtain application forms, student housing applications, credit card charge forms, insurance information, etc. at ELI's Internet site, by email, or by calling or faxing ELI.

Biology Bachelor of Arts / Bachelor of Science Degree

Dana Hall, Room 213
Telephone: (203) 576-4253

Program Description

The Biology Department offers a 120-credit Bachelor of Arts and a 120-credit Bachelor of Science degree in Biology. Students are introduced to laboratory training in General Biology, Ecology, Physiology, Molecular Biology, and most elective courses. Both degrees prepare students to pursue graduate degree programs in education, the biological disciplines, medicine, or allied health professions. Biology students can pursue several concentrations (listed below).

Learning Outcomes

By completing the Biology program, students will:

1. be able to read and interpret current biological literature, formulate scientific hypotheses, design and execute experiments, and analyze and interpret data.
2. have mastered the fundamental principles of cell/molecular /organism biology.
3. have training necessary to apply biological, biomedical and biotechnological principles and techniques to human health and well-being from a holistic/wellness perspective.
4. have awareness and appreciation of interdisciplinary interactions among other disciplines in the natural sciences, mathematics and cognate fields.
5. have awareness to appreciate the beauty, complexity and fragility of our biosphere, and the intricate dynamics of balancing systems within the biosphere.
6. have critical tools to exercise responsibility and stewardship of the biosphere by assuming positions of leadership in our global society.

BIOLOGY, BACHELOR OF ARTS

The Bachelor of Arts degree in Biology provides a broad liberal arts program. It is designed to allow students to obtain a minor that may be appropriate for their career aspirations. In cooperation with the School of Education there is a 5-year combined Bachelor of Arts in Biology/Master of Science in

Education program for students interested in pursuing a teaching career.

Summary of Requirements

PROGRAM REQUIREMENTS

BIOL 101	General Biology I	4
BIOL 102	General Biology II	4
BIOL 211	General Physiology	4
BIOL 223	Ecology	4
BIOL 307	Genetics	3
BIOL 321	Cell Physiology	3
BIOL 345	Molecular Biology	4
	Biology Electives ¹	16
CHEM 205	Organic Chemistry I	4
CHEM 206	Organic Chemistry II	4
PHYS 201	General Physics I	4
PHYS 202	General Physics II	4
		58

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3
HUM	Humanities Core	3
	Humanities Elective	3
FA	Fine Arts Core	3
SOSC	Social Science Core	3
	Social Science Elective	3
CHEM 103	Foreign Language ¹	6
CHEM 104	General Chemistry I	4
MATH 109	General Chemistry II	4
CAPS C390	Precalculus	4
	Capstone Seminar	3
		42

ELECTIVES

Total Semester Hours

120

1. *Biology and approved cognate courses at the 200 level or higher.*

2. *As approved by the Department.*

BIOLOGY, BACHELOR OF SCIENCE

The Bachelor of Science in Biology is for students who wish to pursue a career that requires further study at the graduate or professional level. Students interested in scientific research or one of the health professions should follow the B.S. degree program.

Summary of Requirements

PROGRAM REQUIREMENTS

BIOL 101	General Biology I	4
BIOL 102	General Biology II	4
BIOL 211	General Physiology	4

BIOL 223	Ecology	4
BIOL 307	Genetics	3
BIOL 321	Cell Physiology	3
BIOL 345	Molecular Biology	4
	Biology Electives ¹	22
CHEM 205	Organic Chemistry I	4
CHEM 206	Organic Chemistry II	4
PHYS 202	General Physics II	4
	Math 112 or Math 203	3 or 4
		63 or 64

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH 110	Calculus & Anal. Geo. I	4
HUM	Humanities Core	3
	Humanities Elective	3
FA	Fine Arts Core	3
SOSC	Social Science Core	3
	Social Science Elective	3
CHEM 103	General Chemistry I	4
CHEM 104	General Chemistry II	4
PHYS 201	General Physics I	4
FYS 101	First Year Seminar	3
CAPS C390	Capstone Seminar	3
		40
		16 or 17

Total Semester Hours

120

1. *Biology and approved cognate courses at the 200 level or higher.*

CONCENTRATIONS WITHIN THE BACHELOR OF ARTS OR BACHELOR OF SCIENCE DEGREES

Biology students can pursue the following concentrations:

BIOMEDICAL SCIENCE / BIOTECHNOLOGY

Students are advised to take the following elective courses: General Anatomy and Physiology (BIOL 213, 214), Virology (BIOL 381), Microbiology (BIOL 320), Medical Genomics (BIOL 343), Endocrinology (BIOL 324), Biochemistry (CHEM 365), Immunology (BIOL 341), Toxicology (BIOL 344), Histology (BIOL 303), Medical Microbiology (BIOL 332), and Biostatistics (MATH 203B). Students should participate in a summer research program for practical experience in their field of study. A research project is strongly recommended.

ECOLOGY/ENVIRONMENTAL SCIENCE

Students are advised to take the following

Biology Bachelor of Arts / Bachelor of Science Degree

elective courses: Biosurvival (BIOL 201), Human Evolution (BIOL 202), Comparative Anatomy (BIOL 210), Biostatistics (Math 203B), Microbiology (BIOL 320), Marine Ecology (BIOL 330), Endocrinology (BIOL 324), Parasitology, Mycology, and Virology (BIOL 317), Medical Genomics (BIOL 343), Biochemistry (CHEM. 365), and Environmental Health (BIOL 418). Students are encouraged to pursue internships, participate in fieldwork, enroll in special seminars offered in this area, and pursue independent research with the faculty.

PRE-MEDICINE

The Biology Major is designed to meet the admission requirements for the majority of medical schools. However, admission requirements do vary, so to fulfill the admission requirements for the broadest possible range of programs, you may wish to take the following elective courses: ENGL 202, Professional Writing, MATH 203B, Biostatistics, CHEM 365, Biochemistry, PSYCH 103, Intro to Psychology. Biology electives recommended for pre-med students include General Anatomy and Physiology (BIOL 213, 214), Virology (BIOL 318), Microbiology (BIOL 320), Medical Genomics (BIOL 343), Endocrinology (BIOL 324), Immunology (BIOL 341), Toxicology (BIOL 344), Histology (BIOL 303), and Medical Microbiology (BIOL 332). In addition to their course work, pre-med applicants should have a well-rounded academic resume that includes involvement in research, community activities, student organizations, and experience working or volunteering in health care that involve patient contact.

PRE-MEDICINE MINOR

Students wishing to obtain a minor in Pre-Medicine must take BIOL 213, BIOL 214, CHEM 205, CHEM 206, MATH 110, PHYS 201, PHYS 202, PSYCH 103, MATH 203 and CHEM 360 recommended.

PRE-DENTAL

The admission requirements for dental schools are comparable to those of medical programs, including the requirements for a well-rounded academic resume. Please see the description above.

PRE-VETERINARY

The Biology Major is designed to meet the admission requirements for the majority of

veterinary programs. However, admission requirements do vary, so to fulfill the admission requirements for the broadest possible range of programs, you may wish to take the following elective courses: MATH 203B, Biostatistics, NUTR 205, Intro to Nutrition, CHEM 365, Biochemistry, BIOL 320, Microbiology, PSYCH 103, Intro to Psychology. Biology electives recommended for pre-vet students include Comparative Anatomy (BIOL 210), Human Evolution (BIOL 202), Parasitology, Mycology, and Virology (BIOL 317), Virology (BIOL 318), Medical Genomics (BIOL 343), Endocrinology (BIOL 324), Immunology (BIOL 441), Toxicology (BIOL 344), Medical Microbiology (BIOL 332), and the special seminars offered in this area. In addition to their course work, pre-vet applicants should have a well-rounded academic resume that includes involvement in research, community activities, and student organizations. Pre-vet applicants should have 900+ hours of animal care and handling experience in their area of interest.

PRE-PHYSICIAN ASSISTANT

The Biology Major provides excellent preparation for Physician Assistant programs. Pre-PA students should take the following electives: Intro to Psychology (PSYCH 103), General Anatomy and Physiology (BIOL 213, 214), Biostatistics (MATH 203B), Microbiology (BIOL 320), and Biochemistry (CHEM 365). Other electives of interest to pre-PA students include Virology (BIOL 318), Medical Genomics (BIOL 343), Endocrinology (BIOL 324), Immunology (BIOL 341), Toxicology (BIOL 344), Histology (BIOL 303), and Medical Microbiology (BIOL 332). Pre-PA applicants should have 500+ hours of direct patient contact.

OTHER PRE-HEALTH PROFESSIONAL OPTIONS

The Biology Major offers pre-health professional options in Pre-Pharmacy, Pre-Naturopathic, Pre-Osteopathic, Pre-Occupational Therapy. Please meet with a Biology advisor to tailor your electives to meet your graduate program requirements.

Pre-Chiropractic Programs

The University of Bridgeport also offers a pre-professional program for students preparing for Chiropractic School, the Pre-Chiropractic Program for undergraduate students. This

program fulfills the prerequisites for all Chiropractic colleges in the United States and Canada, including the University of Bridgeport School of Chiropractic.

Three undergraduate options of pre-chiropractic are offered in the Biology and General Studies majors: 90-Credit Basic Option, Combined Baccalaureate/Doctor of Chiropractic Option, and Complete Baccalaureate Followed by Doctor of Chiropractic Option. In both majors the student earns a bachelor's degree which provides requirements for entrance into Chiropractic school.

The University of Bridgeport's Biology major offers both the B.S. and B.A. degrees. The major provides a rigorous scientific and technical program for the pre-Chiropractic student. The program is described in the section on Biology degrees.

The University of Bridgeport's Bachelor of Science in General Studies (B.S.) degree program provides the student with the opportunity to create a program in consultation with their advisor, that may fit the individual student's particular needs. This program is described elsewhere in the catalog under the General Studies major.

Both of these majors fulfill the University of Bridgeport's School of Chiropractic's minimum entrance requirements, which are:

1. Completion of 90 semester hours of undergraduate course work with a minimum grade point average of 3.00 on a 4.00 scale. In addition to this the cumulative grade point average must be competitive with other applicants vying for seats in the School of Chiropractic.
2. Completion of the following specific courses as part of their professional preparation:
 - Communication/Language Skills
6 semester hours
 - Psychology
3 semester hours
 - Social Science
3 semester hours
 - Humanities
3 semester hours
 - Electives (Social Science/Humanities)

Biology Bachelor of Arts / Bachelor of Science Degree

- 9 semester hours**
- Biology
8 semester hours
 - General Chemistry
8 semester hours
 - Organic Chemistry
8 semester hours
 - General Physics
8 semester hours
3. All biology, chemistry, and physics courses must:
- be suitable for students majoring in the sciences,
 - consist of a first semester and second semester course in each subject
 - be passed with a grade of "C" (2.00 on a 4.00 scale) or better with a cumulative science quality point ratio of 2.25 or better,
 - have a related laboratory.
- 90-CREDIT BASIC OPTION**
- Students electing this option complete 90 credits of course work, which includes fulfilling the Chiropractic admission requirements listed above. The student applies to and, if accepted, pursues the D.C. degree in Chiropractic school, but does not earn a bachelor's degree.
- COMBINED BACCALAUREATE / DOCTOR OF CHIROPRACTIC OPTION**
- The University of Bridgeport School of Arts and Sciences and School of Chiropractic offer a seven year coordinated program leading to a combined Baccalaureate and Doctor of Chiropractic degree. Students enrolled in this option complete three years (at least 90 credits) of undergraduate coursework, including all required core courses in the University of Bridgeport curriculum. Students who successfully complete their first three years at the University of Bridgeport, and who comply with the requirements for admission to the University of Bridgeport School of Chiropractic described above may be granted admission to the School of Chiropractic.
- Upon acceptance and entrance into the School of Chiropractic, the student may transfer up to 30 semester hours of basic science coursework in the School of Chiropractic to their undergraduate record to be applied towards completion of the B.S. or B.A. degree in Biology. A student must have a 2.50 grade point average in the School of Chiropractic and earned a grade of "C" or better in any course to be transferred. Courses which may be transferred for undergraduate credit are:
- | | SEMESTER HOURS |
|--|----------------|
| AN 511 Cell Tissue Microscopic Anatomy & Physiology | 3 3 |
| AN 512 Functional Anatomy & Biomechanics I: Spine | 4.5 |
| BC 511 Biochemistry, Metabolism & Nutrition | 2 |
| AN 513 General Anatomy I: Viscera | 4.5 |
| AN 514 Embryology I | 1 |
| MB 521 Microbiology I | 2 |
| PH 521 Physiology I | 2 |
| NS 521 Neuroscience I | 3 |
| AN 525 General Anatomy II: Head & Neck | 4.5 |
| AN 526 Functional Anatomy & Biomechanics II: Extremities | 4.5 |
| NS 612 Neuroscience II | 3 |
| PH 612 Physiology II | 5 |
| MB 623 Microbiology II | 2 |
- Upon satisfactory completion of all requirements for the baccalaureate degree, including the required basic science appropriate Chiropractic courses, the School of Arts and Sciences will award the degree. Requirements for the B.A. or B.S. degree in Biology are listed under Biology. Requirements for the Bachelor of Science in General Studies degree are listed under General Studies.
- The student must work closely with the undergraduate advisor to insure all required courses for the baccalaureate degree as well as prerequisites for the School of Chiropractic are fulfilled. This is especially important in earning the first 90 credits towards the degree before entering Chiropractic School.
- To be accepted for the Doctor of Chiropractic degree program, the student must:
- maintain a minimum grade point average of 3.00 with a minimum grade of "C" in all undergraduate courses required by the University of Bridgeport School of Chiropractic;
 - schedule a meeting with the Director of Admissions of the University of Bridgeport School of Chiropractic immediately upon matriculation at the University of Bridgeport, indicating intent to continue into the Doctor of Chiropractic program upon completion of prerequisite undergraduate study. Pre-chiropractic advisement will be coordinated with the student's undergraduate advisor;
 - submit an application for admission to the Director of Admissions of the University of Bridgeport School of Chiropractic prior to registering for the fifth semester of pre-chiropractic study at the University of Bridgeport;
 - successfully complete a personal interview with members of the Admissions Committee of the University of Bridgeport School of Chiropractic during the final semester of pre-chiropractic study.
- COMPLETE BACCALAUREATE FOLLOWED BY DOCTOR OF CHIROPRACTIC OPTION**
- Under this option, the student completes the baccalaureate degree, making sure all entrance requirements for Chiropractic School are satisfied. The student then, if accepted, enters Chiropractic School.
- Prospective students with questions about any of the above programs and options may contact:
- Kathleen Engelmann, Ph.D.
Dean of College of Science and Society
Charles Dana Hall
Telephone: (203) 576-4253
E-mail: engelmann@bridgeport.edu
- Biology Minor**
- Students wishing to obtain a minor in Biology must take Biology 101, 102, 211, 223, and one additional Biology course of at least 3 credits at the 200 level or higher.

Criminal Justice and Human Security Bachelor of Arts Degree

Carlson Hall
Telephone: (203) 576-4202/4966
Fax: (203) 576-4967

Curriculum and Program Requirements

The College of Science and Society B.A. in Criminal Justice and Human Security degree allows students interested in pursuing a career in criminal justice to develop expertise in the international dimensions of public safety. Students in the degree may choose from one of three areas of concentration:

Human Security
Comparative Justice
Criminology

Interested students also have the option of earning a master's degree in Criminal Justice and Human Security by completing a fifth year of study beyond the normal years.

Internships with law enforcement agencies are also available.

Learning Outcomes

The B.A. in Criminal Justice & Human Security have the following learning outcomes:

Students will demonstrate the progressive acquisition of the oral, written critical thinking skills needed to succeed in graduate level study as well as the required skills for careers in domestic and international security.

Students will be able to identify the essential elements of criminal justice.

Students will be able to articulate the importance of Human Security and explore its impact on domestic and international security.

Students will be able to describe the role played by religious, ideological, and cultural views; ethnic and tribal identities; and economic status in rationalizing criminal behavior.

Students will demonstrate an understanding of the role played in criminal behavior by socioeconomic inequities and societal injustice, resulting from domestic and non-domestic events.

Students will be able to comment on the role played by non-state actors in areas such as the identification of norms, the acceptability of violence and terrorism in promoting poli-

cy changes and in preventing crime.

The Criminal Justice and Human Security program requires 39 semester credit hours including 18 credit hours in the program core, 15 credit hours in one of the concentrations, and an additional 6 credit hours in a diversity requirement (one course from each of the other two concentrations). Students are required to complete 120 credit hours to graduate.

Summary of Requirements

PROGRAM CORE COURSES (REQUIRED)

REQUIREMENTS

CJHS/SOC 118	Introduction to Criminal Justice	3
CJHS 218	Human Security	3
SOC 315	Criminology	3
SOSC 300	Research Methods	3
CJHS 395	Senior Thesis*	3
CJHS 398	Internship*	3
		18

One of the three concentrations is required, plus an additional course from each of the other two concentrations.

HUMAN SECURITY CONCENTRATION

PSCI 204	Government and Politics Abroad	3
PSCI 209	UN Studies	3
PSCI 207	World Politics	3
CJHS/PSCI 215	International Human Rights	3
PSCI 371	Terrorism	3
SOC 355	Globalization	3
WREL 375	Religion and Genocide	3
	(other courses with Chair approval)	

COMPARATIVE JUSTICE CONCENTRATION

PSCI 101	American Government	3
CJHS 205	Law and Economics	3
PSCI 233	Intro to US Legal System	3
CJHS 343	Constitutional Law	3
CJHSH 350	Legal Advocacy	3
CJHS 372	Transnational Crime	3
	(other courses with Chair approval)	

CRIMINOLOGY CONCENTRATION

SOC 270	Sociology of Deviance	3
SOC 310	Race, Class and Gender	3
SOC 311	Juvenile Delinquency	3
SOC 355	Globalization	3
CJHS 271	Law Enforcement and Society	3
CJHS 312	Victimology	3

(other courses with Chair approval)

* Subject to approval of the Department Chair, a student may choose an additional CJHS elective in lieu of the thesis

Internships can be arranged through the Chair of Criminal Justice and Human Security or through the Office of the Director of School of Public and International Affairs.

MINOR IN CRIMINAL JUSTICE

CJHS/SOC 118	Intro to Criminal Justice	3
CJHS 218	Human Security	3
Four additional CJHS courses		12
		18

CONCENTRATION ON PRE-LAW

CJHS/SOC 118	Intro to Criminal Justice	3
PSCI 101	American Government	3
PSCO 233	Intro to US Legal System	3
PSCI 343	Constitutional Law	3
CJHS 398	Law Internship	3
		15

Note: An online (or hybrid) program is available for this major, and follows the same requirements.

English and Professional Writing Bachelor of Science Degree

Bryant Hall
Telephone: (203) 576-4297

Program Description

A bachelor's degree in English and Professional Writing prepares students to enter the job force as writers, editors, content generators, communications specialists, and educators. Students learn the skills to communicate effectively in public and professional settings. The program fosters in-demand career skills including oral and written communication, critical thinking, reading comprehension, cultural awareness and sensitivity, and research skills.

Graduates from the English and Professional Writing program are prepared for careers in variety of fields including business, communications, public and media relations, technical and grant writing, journalism, copywriting, editing, publishing, and advertising. Graduates are qualified to pursue graduate training leading to careers in library science, law, and elementary and secondary English education. This degree meets all requirements Master of Science in Secondary English (30 credits).

Degree Learning Outcomes

Graduates of the University of Bridgeport's English program will be able to:

- Write clearly and effectively in a variety of forms, adapting writing and analytical skills to all rhetorical situations.
- Demonstrate the ability to read critically, research effectively, and document sources ethically.
- Adapt creativity, critical thinking, and speaking skills to communicate effectively in professional environments.
- Read and analyze writing from a variety of genres produced in many diverse cultures and historical periods and apply this analysis to education and the development of content.
- Appreciate and effectively communicate the value of storytelling and creative ex-

pression as sources of practical wisdom, aesthetic pleasure, and knowledge of the diversity of human experience.

Curriculum and Program Requirements

Students must complete 48 credits of English and Professional Writing coursework, at least 12 credits at the 300 level or above. Course work must cover the following areas:

GROUP I (24 CREDITS)

12 credits of Literature courses from the following:

Literary Diversity (6 credits)

ENGL	212	Masterpieces of World Literature	3
ENGL	223	Modern African American Lit.	3
ENGL	228	Immigrant and Indigenous Stories	3
ENGL	252	Women in Literature	3
		Content Genres (6 credits)	
ENGL	102	Introduction to Literature	3
ENGL	105B	Introduction to Fiction	3
ENGL	105A	Introduction to Drama	3
ENGL	213	Contemporary Drama	3
ENGL	216	Introduction to Poetry	3
ENGL	180	Science Fiction	3
ENGL	215	Thematic Studies in Literature	3
ENGL	220	Literature of Travel and Adventure	3

12 credits of Professional Writing courses from the following:

ENGL	201	Fiction Writing	3
ENGL	202	Professional Writing	3
ENGL	205	Poetry Writing	3
ENGL	217	Creative Nonfiction	3
ENGL	218	Autobiographical Writing	3
ENGL	219	Dramatic Writing	3
ENGL	227	Writing for Social Media	3
ENGL	204	Technical Writing	1
ENGL	322	Understanding Grammar	3
		GROUP II (24 CREDITS)	24

12 credits from the following topics in literature:

ENGL	207	American Literature I	3
ENGL	208	American Literature II	3
ENGL	209	British Literature I	3
ENGL	210	British Literature II	3
ENGL	305	Shakespeare at the Movies	3

12 credits from the following advanced seminars and electives:

ENGL	308	Advanced Creative Writing	3
ENGL	325	Contemporary Poetry	3

ENGL	357	Studies in the Novel	3
ENGL	330	Studies in 19th Century American Literature	3
ENGL	332	Studies in 20th Century American Literature	3
ENGL	395	Topics in Literature	3
ENGL	397	Thesis	3
ENGL	399	Independent Study	3

English and Prof. Writing Electives (6 credits)

Choose any two additional courses from Group I or II, as well as any COMM classes, and/or:
ENG 398 Internship

24

GENERAL EDUCATION REQUIREMENTS

CORE CURRICULUM (33 CREDITS)

ENGL	101	Academic Writing	3
FYS	101	First Year Seminar	3
MATH		Math Core	3
Fine Arts		Fine Arts Core Elective	3
Humanities		Humanities Core Electives	6
Natural Sciences		Natural Science Core Electives	6
Social Sciences		Social Science Core Electives	6
CAPS	390	Capstone Seminar	3
		Liberal Arts Electives (9 credits)	9
			42

FREE ELECTIVES

Students may take up to 30 credits of free electives, which may include a minor. 120 total credit hours are required to complete the degree program.

120

Minors

Students may declare a minor with at least 18 credits. Suggested minors include:

- Education
- Psychology and Human Services
- Business
- Health Sciences

Suggested Program

SEMESTER 1

ENGL	101	Academic Writing	3
FYS	101	First Year Seminar	3
FA		Fine Arts Core Elective	3
HUM		Humanities Core Elective	3

English and Professional Writing Bachelor of Science Degree

ENGL	Group 1 Content Genre Course	3
SEMESTER 2		
ENGL	Group 1 Content Genre Course	3
SOC SCI	Social Science Core Elective	3
ENGL	Group 1 Professional Writing Course	3
NAT SCI	Natural Science Core Elective	3
MATH 102	The Nature of Mathematics	3
SEMESTER 3		
ENGL	Group 1 Literary Diversity	3
ENGL	Group 1 Professional Writing Course	3
ENGL	English or PW Elective	3
HUM	Humanities Core Elective	3
SOC SCI	Social Science Core Elective	3
SEMESTER 4		
ENGL	Group 1 Literary Diversity	3
ENGL	Group 1 Professional Writing Course	3
ENGL	Group 2 Topics in Lit Course	3
HUM	Humanities Core Elective	3
NAT SCI	Natural Science Core Elective	3
SEMESTER 5		
ENGL	Group 2 Topics in Lit Course	3
ENGL	Group 1 Professional Writing Course	3
ENGL	Group 2 English and PW Elective	3
	Liberal Arts Elective	3
	Free Electives	3
SEMESTER 6		
ENGL	Group 2 Topics in Lit Course	3
ENGL	Group 2 English and PW Elective	3
ENGL	Group 2 Advanced Seminars	3
	Liberal Arts Elective	3
	Free Electives	3
SEMESTER 7		
ENGL	Group 2 Topics in Lit Course	3
CAPS 390	Capstone Seminar	3
	Liberal Arts Elective	3
	Free Electives	6
SEMESTER 8		
ENGL	Group 2 Topics in Lit Course	3
ENGL	Group 2 Advanced Seminars	3
	Free Electives	12
		120

Film Television and Digital Media Minor

The Film, Television, and Digital Media minor, located in the English department, will equip students with the marketable abilities both to engage thoughtfully with multimedia texts and to produce original content across a range of styles and platforms. Electronic media play a key role in how information is disseminated in fields as diverse as business, education, healthcare, and the sciences. The minor in Film, Television, and Digital Media is designed to enhance students' professional skillset by equipping them with the tools to analyze and critique multimedia content while also empowering them to create original content. The minor's emphasis on diverse forms of visual communication, from Hollywood movies to cutting-edge documentaries, from streaming television series to YouTube videos, and from screenwriting to social media posting, allows students to focus on the media that are the most relevant to their personal and professional goals. The minor blends learning with doing, encouraging students to engage these media as both consumers and creators.

Requirements

All students enrolled in the minor must take:

- FTDM 181: Introduction to Film, Television, and Digital Media (FA)
- In addition, students must take at least five of the following classes:
- FTDM 183: Special Topics in Film, Television, and Digital Media
 - FTDM 262: Film History
 - FTDM 285: Screenwriting I (cross-listed as ENG 219: Dramatic Writing)
 - FTDM 286: Screenwriting II
 - FTDM 202: African American Cinema
 - FTDM 261: Silent Film
 - FTDM 361: American Film
 - FTDM 305: Shakespeare at the Movies (cross-listed with ENGL 305)
 - ENGL 227: Writing for Social Media
 - ENGL 451: Film Adaptation (by permission for undergraduate students)
 - THA 103: Introduction to Theater Arts (FA)
 - THA 115: Stagecraft I (or THA 120 Stagecraft II)
 - THA 133: Fundamentals of Acting

Note: FTDM courses are currently listed as CIHT in this catalog, but will be changing for Spring 2023.

Fashion Merchandising Associate in Arts Degree

NOTE: THIS PROGRAM IS NO LONGER
ACCEPTING NEW STUDENTS OR
INTERNAL TRANSFERS
Bryant Hall 105
Telephone: (203) 576-4098

Program Description

Fashion Merchandising offers a two-year Associate's degree program in Fashion Merchandising and Retailing for individuals interested in pursuing careers within the diversified fashion field. The programs of study are arranged so that the student, after earning an Associate in Arts degree, may go on to complete the Bachelor of Science degree requirements with full credit for all earned semester hours. Refer to the Fashion Merchandising and Retailing four-year program in this Catalog.

In addition to formal class work, the student is required to participate in a supervised industry internship program with approved retail organizations that include many prestigious New York City stores. Other important aspects of the program are: fashion show productions; resident buying office workshops; field trips to the New York market, trade shows, museums, manufacturers, and textile plants at a nominal cost to student. On-campus seminars are led by outstanding industry personnel.

All students must fulfill a supervised industry internship between Thanksgiving and Christmas of their sophomore fall semester. The retail organization within which they will work is selected by the faculty of the Fashion Merchandising and Retailing Program. A student must have earned a 2.5 QPR to obtain junior status in the Program.

The degree will not be granted to students who receive less than "C" in Retailing 280. The degree will not be granted to students receiving more than one "D" in any Fashion Merchandising and Retailing course.

Learning Outcomes

Students 1) acquire the basic technical skills necessary for work in the fashion merchandising field; 2) understand basic principles of fashion merchandising; 3) learn how to effectively communicate with others in their organization; and 4) understand the trends in the current fashion merchandising business.

ASSESSMENT

Students will be evaluated with a standardized exam at the end of their two-year program and with projects in their courses.

RETL 206	Textiles II	3
RETL 207	Strategies of Selling	3
RETL 280	Industry Internship	3
RETL 180	Seminar in Professional Development	3
RETL 203	Buying I	3

Summary of Requirements

PROGRAM REQUIREMENTS

FM 101	Fashion Fundamentals	3
FM 108	Product Knowledge – Fashion Accessories	3
FM 270	Fashion Show	3
RETL 180	Seminar in Professional Development	3
RETL 201	Retail Adver. & Fashion Promotion	3
RETL 202	Retailing Math	3
RETL 203	Fashion & Retail Buying I	3
RETL 205	Textiles I	3
RETL 206	Textiles II	3
RETL 207	Strategy of Selling	3
RETL 280	Industry Internship	3
ADSN 103	Visual Organization	3
ADSN 119A	Intro Computer Apps (Photoshop)	3

Total Semester Hours **63**

39

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
HUM	Humanities Core	3
SOSC	Social Science Core	3
CAIS 191	Computer Concepts	3
MCOM 110 or 111	Public Speaking Intro to Communication	3
MATH	General Education Electives	3
FYS 101	Math Core	3
	First Year Seminar	3

24

Total Semester Hours **63**

Suggested Program

FIRST SEMESTER

ENGL 101	Academic Writing	3
ADSN 103	Visual Organization I	3
ADSN 119A	Intro Computer Apps (Photoshop)	3
FM 101	Fashion Fundamentals	3
FYS 101	First Year Seminar	3

SECOND SEMESTER

MATH	Math Core	3
FM 108	Product Knowledge – Fashion Accessories	3
RETL 202	Retailing Mathematics	3
CAIS 191	Computer Concepts	3
RETL 205	Textiles I	3

THIRD SEMESTER

Fashion Merchandising Bachelor of Science Degree

NOTE: THIS PROGRAM IS NO LONGER
ACCEPTING NEW STUDENTS OR
INTERNAL TRANSFERS
Bryant Hall 105
Telephone: (203) 576-4098

Program Description

The Bachelor of Science degree is required by an increasing number of organizations for eligibility to participate in their executive training programs. This curriculum is designed so that the student may declare a minor (usually 18 semester hours) in suggested related studies such as mass communication or art & design.

All students must fulfill a supervised industry internship between Thanksgiving and Christmas of their sophomore fall semester. The retail organization in which they will intern is selected by the faculty of the Fashion Merchandising and Retailing Program. A student must have earned a 2.5 QPR to obtain junior status in the Program.

In addition to formal class work, the student is required to participate in a supervised industry internship program with approved retail organizations that include many prestigious New York City stores. Other important aspects of the program are: fashion show productions; resident buying office workshops; field trips to the New York market, trade shows, museums, and manufacturers, at a nominal cost to student. On-campus seminars are led by accomplished individuals drawn from the industry.

The degree will not be granted to students who receive less than "C" in Retailing 280. The degree will not be granted to students receiving more than one "D" in any Fashion Merchandising or Retailing course.

Learning Outcomes

Students 1) acquire the technical skills necessary for work in the fashion merchandising field; 2) acquire knowledge of fashion merchandising principles; 3) learn how to effectively communicate with others within and outside of their organization; and 4) develop real world knowledge and understanding of the current fashion world.

ASSESSMENT

Student will be evaluated with a standard-

ized exam related to fashion merchandising at the end of their undergraduate studies. Students will also be evaluated with projects in their final courses.

Study Abroad Semester

The Fashion Merchandising and Retailing Department is affiliated with several Study Abroad Programs. Students may attend the London College of Fashion, the University of Florence, Italy or programs offered through Global Learning Semesters. This off-campus semester enables B.S. degree students to participate in a couture study week in Paris plus retail experiences in other countries. Students who wish to participate in this affiliated Study Abroad Program are advised to make application in their sophomore year for the Fall or Spring semester of their junior or senior year. Electives for the B.S. degree are satisfied by all study abroad program semester hours with approval of the Department. Students with prior internship experience who participate in the Spring semester abroad may opt for a Summer co-op experience in Europe.

Minor Option

Students enrolled in other majors at the University of Bridgeport may declare a minor status if they complete a minimum of 18 semester hours in the following areas: 3 to 9 semester hours may be elected from the following: Fashion Merchandising or Retailing 101, 107, 108, 201, 6 to 9 semester hours from the following: Retailing 102, 207; 3 semester hours from the following: Retailing 300, 303, or 313.

Transfer Students

The Fashion Merchandising and Retailing B.S. degree program easily accommodates transfer students. No courses below a "C" grade are transferable. Transfer Articulation Agreements are in effect with Dean College (MA), Bay Path College (MA), Nassau Community College (NY), Dutchess (NY) and Westchester Community College, Middlesex Community College (CT), Fisher College (MA), Holyoke Community College (MA), Orange County Community College (NY),

County College of Morris (NJ), and Lincoln College (CT).

FASHION MERCHANDISING, BACHELOR OF SCIENCE

Summary of Requirements

CREDITS

General Education Requirements	48
Fashion Merchandising Program Requirements	57
Fashion Merchandising Cognate Courses	18
	123

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH	Math Core	3
HUM	Humanities Core	6
SOSC	Social Science Core	6
SCI	Natural Sciences Core	6
FA	Fine Arts Core	3
	Core Elective	3
FYS 101	First Year Seminar	3
CAPS C390	Capstone Seminar	3
MCOM 111	Introduction to Mass Communication	3
	or ENGL 120 Public Speaking	
	Liberal Arts Elective	3
	Liberal Arts Elective	3
CAIS 191	Computer Concepts	3
		48

PROGRAM REQUIREMENTS

FM 101	Fashion Fundamentals	3
FM 107	Home Furnishings or Elective	3
FM 108	Product Knowledge-Fashion Accessories	3
FM 270	Fashion Show	3
FM 303	History of Costume	3
RETL 202	Merchandising Mathematics	3
RETL 180	Seminar in Professional Development	3
RETL 201	Retail Advert. & Fashion Promotion	3
RETL 203	Fashion & Retail Buying I	3
RETL 205	Textiles I	3
RETL 206	Textiles II	3
RETL 207	Strategies of Selling	3
RETL 213	Retail Human Resource Management	3
RETL 280	Industry Internship	3
RETL 300	Mass Merchandising/Marketing	3
RETL 304	Fashion & Retail Buying II	3
RETL 307	Surface Design	3
RETL 313	Organizational Management	3

Fashion Merchandising Bachelor of Science Degree

RETL 330	Intern. Fashions and Furnishings	3	ADSN 119B	Intro Cptr Apps (Illustrator)	3
		57	CAIS 191	(or Excel) Computer Concepts 3	

REQUIRED COGNATE COURSES

ACCT 101	Accounting I	3	SOSC	Social Sciences Core	3
ADSN 103	Visual Organization I	3	SCI	Natural Sciences Core	3
MKTG 305	Principles of Marketing	3	RETL 330	International Fashion/Marketing	3
	Free or Minor Electives	3	HUM	Humanities Elective (Core)	3
	Free or Minor Electives	3	RETL 304	Fashion & Retail Buying II	3
	Free or Minor Electives	3			
Total Semester Hours		18			
		123			

Suggested Program

FIRST SEMESTER

FYS 101	First Year Seminar	3			
ADSN 103	2D Design	3			
ADSN 119A	Photoshop	3			
FM 101	Fashion Fundamentals	3			
MCOM 111	Intro Mass Comm	3			

SECOND SEMESTER

FM 107	Home Furnishings or Elective	3			
FM 108	Product Knowledge-Fashion Accessories	3			
RETL 205	Textiles I	3			
	Social Science Core Elect	3			
MATH	Math Core	3			

THIRD SEMESTER

RETL 180	Seminar in Professional Development	3			
RETL 206	Textiles II	3			
RETL 207	Strategies of Selling	3			
RETL 203	Fashion & Retail Buying I	3			
RETL 280	Industry Internship	3			

FOURTH SEMESTER

ENGL 101	Academic Writing	3			
FM 270	Fashion Show	3			
RETL 201	Retail Advertising and Fashion Promotion	3			
RETL 202	Buyers Math	3			
HUM	Humanities Core Elect	3			

FIFTH SEMESTER

FA	Fine Arts Core	3			
ACCT 101	Financial Accounting	3			
RETL 300	Mass Merchandising/Marketing	3			
RETL 307	Surface Design I	3			
MKTG 305	Principles of Marketing	3			

SIXTH SEMESTER

SCI	Natural Sciences Core	3			
	General Education Elective	3			
RETL 313	Organizational Management	3			

SEVENTH SEMESTER

SOSC	Social Sciences Core	3			
SCI	Natural Sciences Core	3			
RETL 330	International Fashion/Marketing	3			
HUM	Humanities Elective (Core)	3			
RETL 304	Fashion & Retail Buying II	3			

EIGHTH SEMESTER

CAPS C390	Capstone Seminar	3			
FM 303	History of Costume	3			
	Core Elective	3			
	Electives	6			

Program Options

MINOR IN MASS COMMUNICATION

MCOM 110	Public Communication	3			
MCOM 111	Intro Mass Comm	3			
MCOM 247	Fashion Journalism	3			
MCOM 270	Public Relations	3			
MCOM 339	Advertising and P.R.	3			
MCOM 341	Magazine and Feature Writing	3			
		18			

MINOR IN ART & DESIGN

ADSN 103	2D Design	3			
ADSN 119A	Intro Cptr Apps (Photoshop)	3			
ADSN 119B	Intro Cptr Apps (Illustrator)	3			
ADSN 117	Art History I	3			
ADSN 118	Art History II	3			
RETL 307	Surface Design I	3			
		18			

MINOR IN MARKETING

MKTG 305	Principles of Marketing	3			
RETL 330	International Fashion	3			
	300-level Marketing courses	3			
	300-level Marketing courses	3			
	300-level Marketing courses	3			
	300-level Marketing courses	3			
		18			

General Studies Associate in Arts/Associate in Science Degree

Bryant Hall
Telephone: (203) 576-4235

Program Description

The student enrolled in the Associate in Arts or the Associate in Science degree in the General Studies program may plan a completely individual program leading to the Associate in Arts or Associate in Science degree. There are no specific requirements for these Associate degrees in General Studies except a total of 60 semester hours, a 2.0 minimum QPR, and the following course and elective requirements: English 101, Math core, First Year Seminar, 2 additional University core courses, and 2 electives from the Humanities, Sciences, or Social Sciences.

In addition, the Associate in Science Degree requires Math 106 and a minimum of 24 semester hours in Mathematics and Science.

Learning Outcomes

By completing the program in General Studies, students will: 1) be able to communicate effectively in writing so that one may advance professionally and apply to graduate programs; 2) be able to comprehend, analyze, and interpret texts in a variety of disciplines; 3) be able to present orally one's own thoughts and plans; 4) be able to recognize a problem and devise a plan of action to solve it; 5) be able to show mastery of several disciplines within an academic area of concentration; and 6) demonstrate an ethical mind-set and exercise professional responsibility in a global context.

Note: An online (or hybrid) program is available for this major, and follows the same requirements.

GENERAL STUDIES, ASSOCIATE IN ARTS DEGREE

Summary of Requirements

PROGRAM REQUIREMENTS

Electives	39
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GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH	Math Core	3
FYS 101	First Year Seminar	3
	Liberal Arts Electives	6
	Core Electives	6
		21
	Total Semester Hours	60

Suggested Program

FIRST SEMESTER

ENGL 101	Academic Writing	3
MATH	Math Core	3
FYS 101	First Year Seminar	3
	Electives	6

SECOND SEMESTER

Core Elective	3
Liberal Arts Elective	3
Electives	9

THIRD SEMESTER

Core Elective	3
Electives	12

FOURTH SEMESTER

Liberal Arts Elective	3
Electives	12

Total Semester Hours

60

GENERAL STUDIES, ASSOCIATE IN SCIENCE DEGREE

Summary of Requirements

PROGRAM REQUIREMENTS

Math and Science Electives	24
Elective Semester Hours	15
	39

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH 106	Math Core	3
FYS 101	First Year Seminar	3
	Core Electives	6
	Liberal Arts Electives	6
		21
	Total Semester Hours	60

Suggested Program

FIRST SEMESTER

ENGL 101	Academic Writing	3
MATH 106	Math Core	3
	Math/Science Elective	3
FYS 101	First Year Seminar	3
	Elective	3

SECOND SEMESTER

Core Elective	3
Math/Science Elective	3
Math/Science Elective	3
Math/Science Elective	3
Elective	3

THIRD SEMESTER

Core Elective	3
Math/Science Elective	3
Math/Science Elective	3
Liberal Arts Elective	3
Elective	3

FOURTH SEMESTER

Math/Science Elective	3	
Math/Science Elective	3	
Liberal Arts Elective	3	
Electives	6	
		60
	Total Semester Hours	60

General Studies Bachelor of Science Degree

Carlson Hall
Telephone: (203) 576-4235

Program Description

The Bachelor of Science degree in General Studies is for the student who wishes great flexibility in pursuing college work as well as for the student with well defined goals. The candidate for the B.S. Program will "custom-make" his or her course of study, which may include interdisciplinary work that does not fit well into conventional degree programs. Planning and revision of the programs will be done with a faculty advisor. Many graduates holding this degree have been accepted for advanced work by other institutions. However, since graduate school admissions policies vary greatly depending upon the program and institution, students contemplating graduate study should inform themselves of such requirements.

Learning Outcomes

By completing the program in General Studies, students will: 1) be able to communicate effectively in writing so that one may advance professionally and apply to graduate programs; 2) be able to comprehend, analyze, and interpret texts in a variety of disciplines; 3) be able to present orally one's own thoughts and plans; 4) be able to recognize a problem and devise a plan of action to solve it; 5) be able to show mastery of several disciplines within an academic area of concentration; and 6) demonstrate an ethical mindset and exercise professional responsibility in a global context.

Degree Requirements

1. A minimum of 120 hours with minimum cumulative quality point ratio of 2.00.
2. The student must have an area of concentration with a minimum of 30 semester hours (no maximum), in one of the following areas: Business Studies; Humanities; Natural Science/Mathematics; Science, Engineering, or Computer Related Fields; and Social Sciences. Students may also elect a second area of concentration. A grade of "C" or above is required in all courses used to fulfill this requirement. No more than four 100 level courses can be counted in an area of concentration.
3. At least half of the semester hours to be

counted in the area of concentration must be completed at the University of Bridgeport.

4. Students may not take core courses or courses counting in an area of concentration or a minor on a pass/fail basis. The University policy on pass/fail courses limits this option to a maximum of six courses (two courses per semester) during a student's academic career, for free electives only.
5. General Studies majors may include one or more minors in their programs. Courses used to fulfill requirements for a minor may not be counted in an area of concentration.

GENERAL STUDIES, BACHELOR OF SCIENCE DEGREE

Summary of Requirements

PROGRAM REQUIREMENT

Approved Area of Concentration for the B.S. within Divisions. A minimum of 30 semester hours is required in one of the following categories (see item 2 under degree requirements):

HUMANITIES

Art History
Art of the Cinema and History of the Cinema
History
Literature and Linguistics*
Music Appreciation (Music 121 OR 122) and all History of Music
Philosophy
Religion
Theatre History (includes Theatre Arts 103)
*Writing and composition courses in English and conversation, composition, and introductory courses in languages (101-104) MAY NOT be used to meet requirements in this category

NATURAL SCIENCES/MATHEMATICS

Biology
Chemistry
Geology
Mathematics (exception: Math 200)
Physics (including Astronomy)
Science

SOCIAL SCIENCES

All Economics
All History
All Political Science
All Psychology
All Religion
All Sociology

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH Core or	Demonstrated Math Competency	3
FYS 101	First Year Seminar	3
FA	Fine Arts Core	3
HUM	Humanities Core	6
SCI	Natural Sciences Core	6
SOSC	Social Sciences Core	6
CAPS C390	Capstone Seminar	3
	Liberal Arts Requirements	9
		42

Total Semester Hours **120**

Note: An online (or hybrid) program is available for this major, and follows the same requirements.

Minor or Certificate in Multicultural Affairs

The Minor or Certificate in Multicultural Affairs brings cohesion to a variety of academic courses selected to increase students' critical thinking about issues of Multicultural Affairs/ Diversity and Inclusion in America. Coursework in multicultural affairs at UB will provide students with the background and tools necessary for effective and responsible citizenship in our multicultural society. Students may elect either a minor in Multicultural Affairs or a Certificate in the U.S.

Take 18 credits total from at least six of the following categories

History

HIST 317- African American History Since 1877
HIST 240- Latin American History

English

ENGL 252- Women in Literature
ENGL 212- Masterpieces in World Literature

Music

MUSC 207-History of Jazz
MUSC 230X- Music of the Global South

Political Science and Sociology

PSCI 299-Race and Politics in America
SOC 310-Race and Ethnicity

Psychology

PSYC 348-Psychology of Gender
PSYC 375 – Psychology of Stigma

Human services

HUSV 302 Multicultural perspectives in Human Services
HUSV 225-Sign Language 1

Modern Language

One semester of language of your choice.

Graphic Design/Graphic Design New Media Bachelor of Fine Arts Degree

NOTE: THIS PROGRAM IS NO LONGER ACCEPTING NEW STUDENTS OR INTERNAL TRANSFERS
 Arnold Bernhard Center
 Telephone: (203) 576-4316

Curriculum and Program Requirements

The SASD Graphic Design Program offers two four-year B.F.A. programs: Graphic Design, and Graphic Design New Media. Each curriculum is a B.F.A. (Bachelor of Fine Arts) of 125 credits minimum.

Graphic Design students are versatile visual communicators, designing for a wide range of print and digital media, including identity systems, websites, posters, typefaces, motion graphics, and books.

Graphic Design New Media students specialize in digital design, focusing on video, animation, sound, electronic publishing, interactive processes, user interfaces, augmented and virtual reality, and web-based design and development.

Both curricula consist of integrated, interdisciplinary sequences which strengthen concept development, communication skills, critical thinking, problem solving abilities, creativity, research methods, and professional practice.

Graphic Design and Graphic Design New Media majors share the same foundation in the fundamentals of design. Beginning the second year, students choose electives in accordance with their major and their interests, and proceed together through the Graphic Design Studio sequence.

Both programs offer opportunities for interdisciplinary collaboration, internships, real-world client projects, social impact design, entrepreneurship, and a self-directed thesis project in the senior year.

Learning Outcomes

- Demonstrate ability to identify, analyze, and solve design problems. Assessment: Portfolio projects and project research.
- Demonstrate mastery of design tools, techniques, and concepts in design. Assessment: Projects and portfolios that evidence craftsmanship and adherence to project parameters.

3. Demonstrate an understanding of the aesthetics of form development, and of the history and current state of design. Assessment: Projects, papers, and presentations for art and design history courses; in studio courses, projects that appropriately reference historical precedents.

4. Demonstrate proficiency in selection and use of relevant technologies in design. Abilities to use available technical and industrial processes to produce a design product, and to design and implement such a process. Assessment: Project and portfolio materials planned to be feasibly reproducible by industrial means rather than by one-off or by hand.

5. Demonstrate an understanding of the cultural and societal connections linking design trends and processes as well as a knowledge of business practices and of the market place. Assessment: Projects and portfolio solutions that are culturally- and audience-appropriate for the problem as posed by the business and market briefs for the project.

Summary of Requirements

PROGRAM REQUIREMENTS

ART & DESIGN FOUNDATION COURSES

ADSN 103	2-D Design Principles	3
ADSN 105	Drawing Fundamentals I	3
ADSN 106	Drawing Fundamentals II	3
ADSN 108	3-D Design Principles	3
ADSN 117	Survey of Art History I	3
ADSN 118	Survey Art History II	3
ADSN 119	Intro to Computer Applications I	3
ADSN 120	Intro to Computer Applications II	3
ADSN 225	Web Applications	3
ADSN 231	Photography I	3

Total Semester Hours Required 30

MAJOR REQUIREMENTS

COURSES FROM THIS LIST ARE APPLIED TO THE MAJOR:

GDSN 203A	Typography	3
GDSN 304	Business Practices	3
GDSN 212	Intro to Visual Semiotics	3
GDSN 255	Studio I	3
GDSN 256	Studio II	3
GDSN 305	Studio III	3
GDSN 306	Studio IV	3
GDSN 355	Studio V	3
GDSN 356	Studio VI: Thesis	3
GDSN 304	Business Practices	3

ADSN 377	History of Modern Design	3
ADSN 379	History of Graphic Design	3
	One semester of practicum (GDSN 398, GDSN 425, MCOM 339, or MCOM 370 required	3
	One semester of motion (ADSN 230, ADSN 233, or Animation) required	3

Total Semester Hours Required 42

DESIGN ELECTIVES

ADSN 209/210	Painting I/II	3
ADSN 230	Intro 4D: Time Based Media (Video)	3
ADSN 233	Motion Graphics	3
ADSN 255C	Intermediate Web Apps II	3
ADSN 317	Photo II	3
ADSN 319	Printmaking	3
ADSN 357A	Maya	3
ADSN 377	Contemporary Moving Image	3
ADSN 399	Special Projects	3
ADSN 425A-C	Advanced Topics	3-9
GDSN 203B	Type Design	3
GDSN 203C	Identity & Logo	3
GDSN 204	Calligraphy & Letterforms	3
GDSN 232	The Soundtrack	3
GDSN 398	Internship	2-6
GDSN 399A-C	Advanced Topics	3-9
GDSN 425A-C	Design Service	3-9
ILLUS 305/306	Illustration Studio I/II	3

Total Semester Hours Required 15-21

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH	Math Core	3
HUM	Humanities Core	6
SOSC	Social Sciences Core	6
SCI	Natural Sciences Core	6
FYS 101	First Year Seminar: Design Thinking	3
CAPS C390	Capstone Seminar	3

Total Semester Hours Required 30

GENERAL EDUCATION ELECTIVES

the following courses are suggested, not required:		
MCOM 220	Introduction to Advertising	3
MCOM 339	PR and Advertising Campaigns	3
MCOM 370	Publicity Methods	3
	Liberal Arts Electives	3

Total Semester Hours Required 9

Total Semester Hours Required 126

Suggested Program

FIRST SEMESTER

FYS 101	First Year Seminar: Design Thinking	3
ADSN 117	Survey of Art History I	3
ADSN 103	2-D Design Principles	3
ADSN 105	Drawing Fundamentals I	3
ADSN 119	Intro to Computer Applications I	3

Graphic Design/Graphic Design New Media Bachelor of Fine Arts Degree

SECOND SEMESTER

ENGL 101	Academic Writing	3
MATH	Math Core	3
ADSN 118	Survey of Art History II	3
ADSN 120	Intro to Computer Applications II	3
ADSN 106	Drawing II	3
ADSN 108	3-D Design Principles	3

THIRD SEMESTER

SOSC	Social Sciences Core	3
HUM	Humanities Core	3
ADSN 233	Motion Graphics	3
ADSN 203	Typography	3
GDSN 255	Studio I	3
MCOM 111	Introduction to Mass Communications	3

FOURTH SEMESTER

SOSC	Social Sciences Core	3
ADSN 379	History of Graphic Design	3
GDSN 204	Calligraphy & Letterforms	3
ADSN 231	Photography	3
GDSN 256	Studio II	3

FIFTH SEMESTER

SCI	Natural Sciences Core	3
ADSN 377	History of Modern Design	3
ADSN 225	Intro to Web Applications	3
ADSN 230	Intro to 4D: Video	3
GDSN 305	Studio III	3

SIXTH SEMESTER

SCI	Natural Sciences Core	3
MCOM 220	Introduction to Advertising	3
HUM	Humanities Core	3
GDSN 306	Studio IV	3
GDSN 212	Intro to Visual Semiotics	3
ILLUS 305	Illustration Studio I	3

SEVENTH SEMESTER

CAPS	C390 Capstone Seminar (Core)	3
GDSN 355	Studio V	3
MCOM 339	PR and Advertising Campaigns	3
ADSN 399	Advanced Topics	3
GDSN 425	Design Service	3

EIGHTH SEMESTER

GDSN 304	Business Practices	3
GDSN 356	Studio VI: Thesis	3
ADSN 398	Internship/Practicum	3
ADSN 255C	Intermediate Web Apps II	3
GDSN 203B	Type Design	3

Total Semester Hours 126

Graphic Design New Media

Summary of Requirements

PROGRAM REQUIREMENTS

ART & DESIGN FOUNDATION COURSES

ADSN 103	2-D Design Principles	3
ADSN 105	Drawing Fundamentals I	3
ADSN 106	Drawing Fundamentals II	3
ADSN 108	3-D Design Principles	3
ADSN 117	Survey of Art History I	3
ADSN 118	Survey Art History II	3
ADSN 119	Intro to Computer Applications I	3
ADSN 120	Intro to Computer Applications II	3
ADSN 225	Web Applications	3
ADSN 231	Photography I	3

Total Semester Hours Required

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH	Math Core	3
HUM	Humanities Core	6
SOSC	Social Sciences Core	6
SCI	Natural Sciences Core	6
FYS 101	First Year Seminar: Design Thinking	3
CAPS C390	Capstone Seminar	3

Total Semester Hours Required

GENERAL EDUCATION ELECTIVES

Liberal Arts / Open Electives	3-6
Total Semester Hours Required	6

Suggested Program

FIRST SEMESTER

ADSN 103	2-D Design Principles	3
ADSN 105	Drawing I	3
ADSN 119A	Intro to Computer Applications I	3
ADSN 117	Survey of Art History I	3
FYS 101	First Year Seminar: Design Thinking	3

15

SECOND SEMESTER

ADSN 108	3-D Design Principles	3
ADSN 106	Drawing II	3
ADSN 219	Intro to Computer Applications II	3
ADSN 118	Survey of Art History II	3
ADSN 231	Photography I	3
MATH 102	Nature of Mathematics	3

18

THIRD SEMESTER

GDSN 255	Graphic Design Studio I	3
GDSN 232	The Soundtrack	3
ADSN 103A	Typography	3
ADSN 230	4-D Time-Based Media I	3
ADSN 357A	Intro Alias/Maya	3
ENG 101	Academic Writing Core	3

18

FOURTH SEMESTER

GDSN 256	Graphic Design Studio II	3
ADSN 233	Motion Graphics	3
ADSN 377	Contemporary Moving Image	3
ADSN 379	History of Graphic Design	3
MCOM 242	One semester of practicum (GDSN 398, GDSN 425, MCOM 339, or MCOM 370 required)	3

15

FIFTH SEMESTER

GDSN 305	Graphic Design Studio III	3
ADSN 225A	Intro to Web Applications	3
MCOM 220	Intro to Advertising	3
	Nat Sci Natural Science Core	3
	Hum Humanities Core	3

15

Total Semester Hours Required

15-18

Graphic Design/Graphic Design New Media Bachelor of Fine Arts Degree

SIXTH SEMESTER

GDSN 306	Graphic Design Studio IV	3
GDSN 225B	Web Applications II	3
GDSN 212	Visual Semiotics	3
	Hum Humanities Core	3
	Nat Sci Natural Science Core	3
		<hr/>
		15

SEVENTH SEMESTER

GDSN 355	Graphic Design Studio V	3
MCom 290	Intercultural Communication (SS Core)	3
GDSN 425A	Design Service	3
MCOM 370	Publicity Methods	3
Caps C390	Capstone Seminar Core	3
		<hr/>
		15

EIGHTH SEMESTER

GDSN 356	Graphic Design Studio VI (Thesis)	3
GDSN 304	Business Practices	3
ADSN 425	Advanced Special Topics in New Media	3
MCOM 262	Writing for Interactive Media	3
	Soc Sci Social Science Core	3
		<hr/>
		15

Humanities Bachelor of Arts / Bachelor of Science Degree

NOTE: THIS PROGRAM IS NO LONGER
ACCEPTING NEW STUDENTS OR
INTERNAL TRANSFERS
Bryant Hall
Telephone: (203) 576 4235

Program Description

In the Humanities program, students will undertake interdisciplinary study based in History and Philosophy. The program develops understanding of human thought through time and place, providing students with the ability to locate and analyze evidence, to apply logical and critical thinking to it, and to organize and present it in coherent and persuasive ways. This program is designed for students interested in careers that involve teaching, research, legal work, writing, publishing, or editing. The program is ideal for those interested in graduate study in History and Philosophy. It also prepares students for professional graduate programs in communication, library science, education, journalism, or law school.

There are three concentrations available in Humanities: General, History, and Philosophy. Each requires 30 credit hours in History and Philosophy along with a 3-credit senior project which may be satisfied by a thesis or internship option in a student's final year of study. The program also provides students with the option of choosing one or two of the following tracks: Standard (9 credits), Law and Ethics (9 credits), and Education (12 credits).

Learning Outcomes

By completing the Humanities program, students will demonstrate (1) an ability to engage in disciplined study of human inquiry, past and present; (2) an understanding of the breakdowns, shifts, and continuities in human relations; (3) an understanding of the interconnectedness of historical and philosophical developments that influence that influence cultures; (4) an ability to gather and think logically and critically about evidence; and (5) an ability to formulate questions and

present results of research and reasoning.

Humanities, Bachelor of Arts

Summary of Program Requirements

One of the three following concentrations:

GENERAL CONCENTRATION

15 credits of History courses (2 American History courses, 2 European or global History courses, and 1 History or cognate discipline elective)

15 credits of Philosophy courses (2 courses in ethics, 2 courses in critical thinking, and 1 Philosophy or cognate discipline elective)

Humanities 397 (senior thesis) or Humanities 398 (internship)

HISTORY CONCENTRATION

21 credits of History courses (2 American History courses, 2 European or global History courses, and 3 History or cognate discipline electives)

9 credits of Philosophy courses (1 course in ethics, 1 course in critical thinking, and 1 Philosophy or cognate discipline elective)

Humanities 397 (senior thesis) or Humanities 398 (internship)

PHILOSOPHY CONCENTRATION

9 credits of History courses (1 American History course, 1 European or global History course, and 1 History or cognate discipline elective)

21 credits of Philosophy courses (2 courses in ethics, 2 courses in critical thinking, and 3 Philosophy or cognate discipline electives)

Humanities 397 (senior thesis) or Humanities 398 (internship)

OPTIONAL TRACKS

STANDARD TRACK (9 CREDITS)

One 3-credit research class: HIST 292, HIST 399, or PHIL 399

One 3-credit advanced writing class: ENGL 202 or ENGL 217

One 3-credit computer skills class: CPSC 101 or ADSN 119A

LAW & ETHICS TRACK (9 CREDITS)

One 3-credit speaking or communication class: ENGL 120, CJHS 350, ENGL 202, or ENGL 217

One 3-credit legal systems class: PSCI 233, PSCI 208, SOC 118, BLAW 251, or HLAD 331

One 3-credit American Government classes: PSCI 101 or CJHS 343

EDUCATION TRACK (12 CREDITS)

One 3-credit in Political Science class: PSCI 101, 203, 207, or 233

One 3-credit Economics class: ECON 201 or 202
SOSC 207

One 3-credit Psychology or Sociology class: PSYC 103, 201, or 202; SOC 101, 102, or 231

MODERN LANGUAGE REQUIREMENTS (12 CREDITS)

Demonstrated proficiency in a modern language other than English at the 104 level.

GENERAL EDUCATION REQUIREMENTS

UNIVERSITY CORE (33 CREDITS)

ENGL 101	Academic Writing	3
MATH core	Demonstrated Math Competency	3
FYS 101	First Year Seminar	3
FA	Fine Arts Core elective	3
HUM	Humanities Core electives	6
SCI	Natural Science Core electives	6
SOSC	Social Science Core electives	6
CAPS 390	Capstone Seminar	3

LIBERAL ARTS ELECTIVES (7 CREDITS)

Suggested Programs

GENERAL CONCENTRATION WITH A STANDARD TRACK

FIRST SEMESTER

ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3
PHIL 101	General Philosophy	3
SOSC elective	Social Science core elective	3
	Free elective	3

SECOND SEMESTER

HIST 102	World Civilization II	3
MATH 102	Nature of Mathematics	3
FA elective	Fine Arts core elective	3
SCI elective	Natural Science core elective	3
HUM elective	Humanities core elective	3

THIRD SEMESTER

HIST 207	US History to 1877	3
PHIL 203	Ethics	3
SOSC elective	Social Science core elective	3
SCI elective	Natural Science core elective	3
ML 101	Modern Language 101	3

FOURTH SEMESTER

HIST 208	US History since 1877	3
PHIL 205	History of Western Philosophy	3

Humanities Bachelor of Arts / Bachelor of Science Degree

SCI elective	Natural Science core elective	3	FIFTH SEMESTER		PHIL elective	Philosophy or Cognate elective	3	
HUM elective	Humanities core elective	3	HIST elective	History or Cognate elective	3	HIST elective	History or Cognate elective	3
ML 102	Modern Language 102	3	PHIL 205	History of Western Philosophy	3	PSCI 233	Intro. to the US Legal System	3
FIFTH SEMESTER			PSYC 201	Child Psychology	3	ML 103	Modern Language 103	3
HIST 336	Portrait of an Age	3	ML 103	Modern Language 103	3		Free electives	3
PHIL 211	Philosophy of Human Rights	3		Free elective	3	SIXTH SEMESTER		
ADSN 119A	Introduction to Computer Apps	3	SIXTH SEMESTER		PHIL elective	Philosophy or Cognate elective	3	
ML 103	Modern Language 103	3	HIST elective	History or Cognate elective	3	CJHS 343	Constitutional Law	3
	Free elective	3	ECON 201/202	Macro or Micro Economics	3	ML 104	Modern Language 104	3
SIXTH SEMESTER			SOSC 207	World Regional Geography	3		Free electives	3
HIST elective	History or Cognate elective	3	ML 104	Modern Language 104	3	SEVENTH SEMESTER		
PHIL elective	Philosophy or Cognate elective	3		Free electives	3	PHIL elective	Philosophy or Cognate elective	3
ENGL 217	Creative Nonfiction	3	SEVENTH SEMESTER		LARTS electives	Liberal Arts electives	6	
ML 104	Modern Language 104	3	HIST 292	Research and Writing	3		Free electives	6
	Free elective	3	LARTS electives	Liberal Arts electives	6	EIGHTH SEMESTER		
SEVENTH SEMESTER				Free electives	6	HUM 397/398	Thesis or Internship	3
HIST 292	Research and Writing	3	EIGHTH SEMESTER		CAPS 390	Capstone Seminar	3	
LARTS electives	Liberal Arts electives	6	HUM 397/398	Thesis or Internship	3	LARTS elective	Liberal Arts elective	3
	Free electives	6	CAPS 390	Capstone Seminar	3		Free electives	6
EIGHTH SEMESTER			LARTS elective	Liberal Arts elective	3	Humanities, Bachelor of Science		
HUM 397/398	Thesis or Internship	3		Free electives	6	Summary of Program Requirements		
CAPS 390	Capstone Seminar	3	PHILOSOPHY CONCENTRATION WITH A LAW & ETHICS TRACK					
LARTS elective	Liberal Arts elective	3	FIRST SEMESTER					
	Free electives	6	ENGL 101	Academic Writing	3	GENERAL CONCENTRATION		
HISTORY CONCENTRATION WITH AN EDUCATION TRACK			FYS 101	First Year Seminar	3	15 credits of History courses (2 American History courses, 2 European or global History courses, and 1 History or cognate discipline elective)		
FIRST SEMESTER			PHIL 101	General Philosophy	3	15 credits of Philosophy courses (2 courses in ethics, 2 courses in critical thinking, and 1 Philosophy or cognate discipline elective)		
ENGL 101	Academic Writing	3	SOSC elective	Social Science core elective	3	Humanities 397 (senior thesis) or Humanities 398 (internship)		
FYS 101	First Year Seminar	3	FA elective	Fine Arts core elective	3	HISTORY CONCENTRATION		
HIST 101	World History I	3	SECOND SEMESTER		21 credits of History courses (2 American History courses, 2 European or global History courses, and 3 History or cognate discipline electives)			
SOSC elective	Social Science core elective	3	PHIL 203	Ethics	3	9 credits of Philosophy courses (1 course in ethics, 1 course in critical thinking, and 1 Philosophy or cognate discipline elective)		
FA	Fine Arts core elective	3	MATH 102	Nature of Mathematics	3	Humanities 397 (senior thesis) or Humanities 398 (internship)		
SECOND SEMESTER			SCI elective	Natural Science core elective	3	PHILOSOPHY CONCENTRATION		
HIST 102	World History II	3	HUM elective	Humanities core elective	3	9 credits of History courses (1 American History course, 1 European or global History course, and 1 History or cognate discipline elective)		
MATH 102	Nature of Mathematics	3	SOSC elective	Social Science core elective	3	21 credits of Philosophy courses (2 courses in ethics, 2 courses in critical thinking, and 3 Philosophy or cognate discipline electives)		
SCI elective	Natural Science core elective	3	THIRD SEMESTER		Humanities 397 (senior thesis) or Humanities 398 (internship)			
HUM elect	Humanities core elective	3	PHIL 205	History of Western Philosophy	3	HUMANITIES CONCENTRATION		
SOSC elective	Social Science core elective	3	HIST 101	World Civilization I	3	15 credits of Humanities courses (2 American History courses, 2 European or global History courses, and 3 Humanities electives)		
THIRD SEMESTER			SCI elective	Natural Science core elective	3	9 credits of Humanities courses (1 course in ethics, 1 course in critical thinking, and 1 Humanities elective)		
HIST 207	US History to 1877	3	HUM elective	Humanities core elective	3	Humanities 397 (senior thesis) or Humanities 398 (internship)		
PHIL 101	General Philosophy	3	ML 101	Modern Language 101	3	PHILOSOPHY CONCENTRATION		
SCI elective	Natural Science core elective	3	FOURTH SEMESTER		9 credits of History courses (1 American History course, 1 European or global History course, and 1 History or cognate discipline elective)			
HUM elective	Humanities core elective	3	PHIL 211	Philosophy of Human Rights	3	21 credits of Philosophy courses (2 courses in ethics, 2 courses in critical thinking, and 3 Philosophy or cognate discipline electives)		
ML 101	Modern Language 101	3	HIST 208	US History since 1877	3	Humanities 397 (senior thesis) or Humanities 398 (internship)		
FOURTH SEMESTER			ENGL 217	Creative Nonfiction	3			
HIST 208	US History since 1877	3	ML 102	Modern Language 102	3			
PHIL 203	Ethics	3		Free Elective	3			
PSCI 101	American Government	3	FIFTH SEMESTER					
ML 102	Modern Language 102	3						
	Free Elective	3						

Humanities Bachelor of Arts / Bachelor of Science Degree

OPTIONAL TRACKS

STANDARD TRACK (9 CREDITS)

One 3-credit research class: HIST 292, HIST 399, or PHIL 399
 One 3-credit advanced writing class: ENGL 202 or ENGL 217
 One 3-credit computer skills class: CPSC 101 or ADSN 119A

LAW & ETHICS TRACK (9 CREDITS)

One 3-credit speaking or communication class: ENGL 120, CJHS 350, ENGL 202, or ENGL 217
 One 3-credit legal systems class: PSCI 233, PSCI 208, SOC 118, BLAW 251, or HLAD 331
 One 3-credit American Government classes: PSCI 101 or CJHS 343

EDUCATION TRACK (12 CREDITS)

One 3-credit in Political Science class: PSCI 101, 203, 207, or 233
 One 3-credit Economics class: ECON 201 or 202
 SOSC 207
 One 3-credit Psychology or Sociology class: PSYC 103, 201, or 202; SOC 101, 102, or 231

GENERAL EDUCATION REQUIREMENTS

UNIVERSITY CORE (33 CREDITS)

ENGL 101	Academic Writing	3
MATH core	Demonstrated Math Competency	3
FYS 101	First Year Seminar	3
FA	Fine Arts Core elective	3
HUM	Humanities Core electives	6
SCI	Natural Science Core electives	6
SOSC	Social Science Core electives	6
CAPS 390	Capstone Seminar	3

LIBERAL ARTS ELECTIVES (7 CREDITS)

Suggested Programs

GENERAL CONCENTRATION WITH A STANDARD TRACK

FIRST SEMESTER

ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3
PHIL 101	General Philosophy	3
SOSC elective	Social Science core elective	3
	Free elective	3

SECOND SEMESTER

HIST 102	World Civilization II	3
MATH 102	Nature of Mathematics	3
FA elective	Fine Arts core elective	3
SCI elective	Natural Science core elective	3
HUM elective	Humanities core elective	3

THIRD SEMESTER			THIRD SEMESTER		
HIST 207	US History to 1877	3	HIST 207	US History to 1877	3
PHIL 203	Ethics	3	PHIL 101	General Philosophy	3
SOSC elective	Social Science core elective	3	SCI elective	Natural Science core elective	3
SCI elective	Natural Science core elective	3	HUM elective	Humanities core elective	3
	Free elective	3		Free elective	3
FOURTH SEMESTER			FOURTH SEMESTER		
HIST 208	US History since 1877	3	HIST 208	US History since 1877	3
PHIL 205	History of Western Philosophy	3	PHIL 203	Ethics	3
SCI elective	Natural Science core elective	3	PSCI 101	American Government	3
HUM elective	Humanities core elective	3		Free electives	6
	Free elective	3			
FIFTH SEMESTER			FIFTH SEMESTER		
HIST elective	Portrait of an Age	3	HIST elective	History or Cognate elective	3
PHIL 211	Philosophy of Human Rights	3	PHIL 205	History of Western Philosophy	3
ADSN 119A	Introduction to Computer Apps	3	PSYC 201	Child Psychology	3
	Free electives	6		Free electives	6
SIXTH SEMESTER			SIXTH SEMESTER		
HIST elective	History or Cognate elective	3	HIST elective	History or Cognate elective	3
ECON 201/202	Macro or Micro Economics	3	ECON 201/202	Macro or Micro Economics	3
SOSC 207	World Regional Geography	3	SOSC 207	World Regional Geography	3
	Free electives	6		Free electives	6
SEVENTH SEMESTER			SEVENTH SEMESTER		
HIST 292	Research and Writing	3	HIST 292	Research and Writing	3
LARTS electives	Liberal Arts electives	6	LARTS electives	Liberal Arts electives	6
	Free electives	6		Free electives	6
EIGHTH SEMESTER			EIGHTH SEMESTER		
HUM 397/398	Thesis or Internship	3	HUM 397/398	Thesis or Internship	3
CAPS 390	Capstone Seminar	3	CAPS 390	Capstone Seminar	3
LARTS elective	Liberal Arts elective	3	LARTS elective	Liberal Arts elective	3
	Free electives	6		Free electives	6
PHILOSOPHY CONCENTRATION WITH A LAW & ETHICS TRACK					
FIRST SEMESTER			FIRST SEMESTER		
ENGL 101	Academic Writing	3	ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3	FYS 101	First Year Seminar	3
PHIL 101	General Philosophy	3	PHIL 101	General Philosophy	3
SOSC elective	Social Science core elective	3	SOSC elective	Social Science core elective	3
FA elective	Fine Arts core elective	3	FA elective	Fine Arts core elective	3
SECOND SEMESTER			SECOND SEMESTER		
PHIL 203	Ethics	3	PHIL 203	Ethics	3
MATH 102	Nature of Mathematics	3	MATH 102	Nature of Mathematics	3
SCI elective	Natural Science core elective	3	SCI elective	Natural Science core elective	3
HUM elective	Humanities core elective	3	HUM elective	Humanities core elective	3
SOSC elective	Social Science core elective	3	SOSC elective	Social Science core elective	3
THIRD SEMESTER			THIRD SEMESTER		
PHIL 205	History of Western Philosophy	3	PHIL 205	History of Western Philosophy	3
HIST 101	World Civilization I	3	HIST 101	World Civilization I	3
SCI elective	Natural Science core elective	3	SCI elective	Natural Science core elective	3
HUM elective	Humanities core elective	3	HUM elective	Humanities core elective	3

Humanities Bachelor of Arts / Bachelor of Science Degree

Free elective	3
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FOURTH SEMESTER

PHIL 211	Philosophy of Human Rights	3
HIST 208	US History since 1877	3
ENGL 217	Creative Nonfiction	3
	Free electives	6

FIFTH SEMESTER

PHIL elective	Philosophy or Cognate elective	3
HIST elective	History or Cognate elective	3
PSCI 233	Intro. to the US Legal System	3
	Free electives	6

SIXTH SEMESTER

PHIL elective	Philosophy or Cognate elective	3
CJHS 343	Constitutional Law	3
	Free electives	9

SEVENTH SEMESTER

PHIL elective	Philosophy or Cognate elective	3
LARTS electives	Liberal Arts electives	6
	Free electives	6

EIGHTH SEMESTER

HUM 397/398	Thesis or Internship	3
CAPS 390	Capstone Seminar	3
LARTS elective	Liberal Arts elective	3
	Free electives	6

Human Services Bachelor of Science Degree

Bates Hall
Telephone: (203) 576-4158
Fax: (203) 576-4171

Curriculum and Program Requirements

The Human Services Program is designed to provide the academic and practical experience necessary to enter the field of human services upon completion of the degree. The combination of academic theoretical coursework and its application through supervised field work experience provides students with the breadth of preparation necessary for employment in a wide range of human service agencies and community organizations. Students have the opportunity to enhance their programs with minors in such fields as Education, Business and Social Sciences. Stimulating courses are taught by experienced faculty who are current practitioners as well as active researchers.

Learning Outcomes

By completing the B.S. in Human Services, students will: 1) be knowledgeable of the history and systems of the Human Services field; 2) be skillful at program assessment, planning, and development; 3) be able to find, use, manage, and protect information effectively; 4) be effective at oral and written communication; 5) be adept at program administration and leadership; 6) be committed to ethical practices; and 7) be respectful of client values and attitudes.

Summary of Requirements

PROGRAM REQUIREMENTS

HUSV 110	Alcohol and other Drugs In Society	3
HUSV 201	Introduction to Counseling	3
HUSV 203	Introduction to Human Services	3
HUSV 205	Couns Mthds for Spec Populations	3
HUSV 305	Group Interaction	3
HUSV 301	Crisis Management	3
HUSV 350	Human Services Seminar	3
HUSV 333	Social Welfare Policy	3
HUSV 101	Introduction to Gerontology	3
HUSV 302	Multicultural Perspectives in Human Services	3
PSYC 201	Human Growth & Development	3

PHIL 203 or HUSV 320	Ethics Applied Ethics for HUSV Professionals	3	HUSV 110 HUSV 333 HUSV	Alcohol and Drugs in Society Social Welfare Policy Elective	3 3 3
HUSV 277	Practicum	3			
HUSV 312	Internship	6			
NUTR 205	Fundamentals of Nutrition	3			
MCOM 110	Public Communication	3			
		51			
PLUS ANY EIGHTEEN SEMESTER HOURS OF HUMAN SERVICES, PSYCHOLOGY OR RELATED FIELD					
		18			
Free Electives		11			
GENERAL EDUCATION					
REQUIREMENTS					
ENGL 101	Composition and Rhetoric	3			
HUM	Humanities Core	6			
FA	Fine Arts Core	3			
MATH	Math Core	3			
SCI	Natural Sciences Core	6			
SOSC	Social Sciences Core	6			
CAPS 390	Capstone Seminar	3			
FYS 101	First Year Seminar	3			
	Liberal Arts Electives	7			
		40			
Total Semester Hours		120			
Suggested Program					
FIRST SEMESTER					
ENGL 101	Academic Writing	3			
HUSV 110	Alcohol and Other Drugs in Society	3			
HUSV 201	Introduction to Counseling	3			
FA	Fine Arts Core	3			
MATH	Math Core	3			
FYS 101	First Year Seminar	3			
SECOND SEMESTER					
HUSV 203	Introduction to Human Services	3			
ENGL 120	Communications	3			
HUSV 101	Introduction to Gerontology	3			
PHIL 203	Ethics	3			
HUSV 205	Counseling Special Populations	3			
THIRD SEMESTER					
SCI	Natural Sciences Core	3			
PSYC 201	Human Growth and Development	3			
HUSV 277	Practicum	3			
HUM	Humanities Core	3			
HUSV	Elective	3			
FOURTH SEMESTER					
HUSV 302	Multicultural Perspectives in Human Services	3			
SOSC	Social Sciences Core	3			

Minor In Human Services

Students seeking to complete a minor in Human Services are required to receive a grade of C or higher in the following courses.

HUSV 101- Intro to Gerontology	3
HUSV 110- Alcohol and Drugs	3
HUSV 203 Intro to Human Services -or HUSV 201- Intro to Counseling	3
HUSV 333- Social Policy or HUSV -350- Human Services Seminar	3
HUSV- 277 Practicum in Human Services	3
HUSV Free Elective – 3 -credits	3

Total of 18 credits

Note: An online (or hybrid) program is available for this major, and follows the same requirements.

Industrial Design Bachelor of Science Degree

NOTE: THIS PROGRAM IS NO LONGER
ACCEPTING NEW STUDENTS OR
INTERNAL TRANSFERS
Arnold Bernhard Center
Telephone: (203) 576-4034

Curriculum and Program Requirements

The four-year Industrial Design program emphasizes conceptualization, design, and production of products for personal, home, industrial, and commercial use, ranging from domestic and consumer products to medical, entertainment, and more. Students learn to design and develop product concepts, visualize them using the latest computer technology, and build models in a well-equipped model shop or computer lab. Students learn presentation skills to demonstrate their creative and unique solutions. Advanced industrial design topics include UI/UX, VR, ergonomics, materials and manufacturing, and marketing.

Students take courses in sketching, model making, materials and manufacture technologies, CAD (such as computer-aided design and rapid prototyping), the design process, design thinking and design history. Package design, smartphones, lighting, furniture, home appliances, exhibit design, computer rendering, 3D printing, model making and more: all part of the SASD Industrial Design Curriculum.

Learning Outcomes

- Demonstrate ability to identify, analyze, and solve industrial design problems.

Assessment: Portfolio projects appropriately respond to project briefs, and are clear, focused, expressive, and communicative solutions to the stated problems.

- Demonstrate mastery of design tools, techniques, and concepts in industrial design.

Assessment: Projects and portfolios that evidence craftsmanship, adherence to project parameters, and appropriate selection of materials, manufacturing techniques, and implementation.

- Demonstrate an understanding of the aesthetics of form development and of the history and current state of design.

Assessment: Projects, papers, and presentations for art and design history courses; in studio courses, projects that appropriately reference historical precedents and stylistic movements in industrial design.

- Demonstrate proficiency in selection and use of relevant technologies in design. Abilities to use available technical and industrial processes to produce a design product, and to design and implement such a process.

Assessment: Project and portfolio solutions are made with the appropriate technology or software for the final application. Projects are planned to be feasibly reproducible by industrial/commercial means rather than by one-off or by hand.

- Demonstrate an understanding of the cultural and societal connections linking industrial design trends and processes as well as a knowledge of business practices and of the market place.

Assessment: Projects and portfolio solutions that are culturally- and audience-appropriate for the problem as posed by the brief for the project

- Demonstrate proficiency in presenting their own work as well as discussing and constructively critiquing the work of others.

Assessment: Active participation in class critiques; clear, thoughtful presentation of students' own projects, ability to give, accept, and incorporate feedback.

SASD's Bachelor of Science in Industrial Design degree is accredited by National Association of Schools of Art and Design (NASAD), the governing body of undergraduate and graduate art and design schools.

Industrial Design Curriculum

SUMMARY OF REQUIREMENTS

DESIGN FOUNDATIONS

2-D Design Principles	3	
3-D Design Principles	3	
Design Drawing I	3	
Drawing/Drafting II	3	
Design Drawing III	3	
Design Drawing IV	3	
Introduction to Computer Apps I	3	
Introduction to Computer Apps II	3	24
INDUSTRIAL DESIGN FOUNDATIONS		
Materials & Manufacturing I	3	
Materials & Manufacturing II	3	
Industrial Design Electives	5	
SolidWorks I	2	
SolidWorks II	2	
SolidWorks III	2	
SolidWorks IV	2	
Product Lab Orientation	3	
4-D Time-based Media	3	
NX C Siemens PLM	3	
NX D Siemens PLM	3	
Exhibition Design	3	
Internship	3	
Special Projects	3	
Furniture Design	3	
		43
INDUSTRIAL DESIGN STUDIOS		
Industrial Design Studio I	3	
Industrial Design Studio II	3	
Industrial Design Studio III	3	
Industrial Design Studio IV	3	
Industrial Design Studio V	3	
Industrial Design Studio VI	3	
		18
ART HISTORY		
Survey of Art History I	3	
Survey of Art History II	3	
History of Modern Design	3	
History of Industrial Design	3	
		12
UB CORE		
Academic Writing	3	
Math	3	
Humanities Core	3	
Humanities Core Elective	3	
Social Sciences Core	3	
Social Sciences Core Elective	3	
Natural Sciences Core	3	
Natural Sciences Core Elective	3	
First Year Seminar: Design Thinking	3	
Capstone Seminar: Design & Business	3	
		30
Total Semester Hours		127
Suggested Program		
FIRST SEMESTER		
ADSN 103	2-D Design Principles	3
ADSN 105	Design Drawing I	3
ADSN 119A	Introduction to Computer Apps I	3
ADSN 117	Survey of Art History I	3

Industrial Design Bachelor of Science Degree

FYS 101	First Year Seminar: Design Thinking	3		Capstone Seminar: Design & Business	3
		15			18
SECOND SEMESTER					
ADSN 108	3-D Design Principles	3	IDDSN 356	Industrial Design Studio VI	3
ADSN 106	Drawing II	3	ADSN 233	4D Intro Time Based Media	3
ADSN 119B	Introduction to Computer Apps II	3	ADSN 380	History of Modern Design	3
ADSN 118	Survey of Art History II	3	IDDSN 398	Internship	3
ENG 101	Academic Writing	3			12
	Natural Sciences Core	3			
		18		Total Semester Hours	127
THIRD SEMESTER					
IDDSN 255	Industrial Design Studio I	3			
ADSN 205	Design Drawing III	3			
IDDSN 215	Materials & Manufacturing I	3			
ITDSN 312	Furniture Design I	3			
IDDSN 218S	SolidWorks I	2			
	Natural Science Core	3			
		17			
FOURTH SEMESTER					
IDDSN 256	Industrial Design Studio II	3			
ADSN 206	Design Drawing IV	3			
IDDSN 216	Materials & Manufacturing II	3			
IDDSN 218W	SolidWorks II	2			
	Social Science Core	3			
ADSN 408	Selected Topics: Modern Art	1			
		15			
FIFTH SEMESTER					
IDDSN 305	Industrial Design Studio III	3			
ITDSN 312B	Furniture Design II	3			
ADSN 357C	NX Siemens PLM	3			
IDDSN 218C	SolidWorks III	2			
ADSN 425	History of Industrial Design	3			
	Humanities Core	3			
		17			
SIXTH SEMESTER					
IDDSN 306	Industrial Design Studio IV	3			
IDDSN 218D	SolidWorks IV	2			
ADSN 357D	NX Siemens PLM	3			
ITDSN 311	Exhibition Design	3			
IDDSN 399	Special Projects: Portfolio	1			
	Math Core	3			
		15			
SEVENTH SEMESTER					
IDDSN 355	Industrial Design Studio V	3			
ADSN 107	Product Lab Orientation	3			
IDDSN 450	New Product Commercialization	3			
	Humanities Core	3			
	Social Sciences Core	3			

Interior Design Bachelor of Science Degree

NOTE: THIS PROGRAM IS NO LONGER
ACCEPTING NEW STUDENTS OR
INTERNAL TRANSFERS
Arnold Bernhard Center
Telephone: (203) 576-4221

Program description

The Interior Design program prepares students with functional, technical and aesthetic aspects of the interior environment.

The Professional Interior Designer is qualified to identify, research and solve problems pertaining to the function and aesthetic quality of the interior environment. The designer must have knowledge of construction materials, their applications and methods of installation. Interior designers must design the space in accordance with federal, state and local building codes to meet safety, health, and accessibility requirements. Interior designers both plan the space and furnish the interiors of private homes, public buildings and commercial establishments such as offices, retail, restaurants, hospitals, hotels and theaters. They may plan additions, renovations and be involved in historic preservations. With a client's needs and budget in mind, they develop space-planning solutions; prepare working drawings, millwork, architectural details and specifications for interior construction, furnishing and finishes. Designers use computers to generate plans and construction documents, in addition to 3D modeling views.

At UB several interior projects assignments are done in collaboration with noted interior/architectural firms, to give students a grasp of real projects and receive additional inputs from professionals in the field. In addition, this relationship helps establish connections for internships.

**ITDSN 398 (Internship) can be taken as an elective in addition to the required coursework.*

As an Interior Design major, you can specialize in several areas:

- Residential Design (new and existing)
- Contract Design such as: Retail, Hospitality, Corporate Offices, Health care, Institutional
- Historic Preservation

- Furniture and Furnishings Design

Learning Outcomes

1. Demonstrate ability to identify, analyze, and solve design problems. Assessment: Portfolio projects and project research.
2. Demonstrate mastery of design tools, techniques, and concepts in design. Assessment: Projects and portfolios that evidence craftsmanship and adherence to project parameters.
3. Demonstrate an understanding of the aesthetics of form development, and of the history and current state of design. Assessment: Projects, papers, and presentations for art and design history courses; in studio courses, projects that appropriately reference historical precedents.
4. Demonstrate proficiency in selection and use of relevant technologies in design. Abilities to use available technical and industrial processes to produce a design product, and to design and implement such a process. Assessment: Project and portfolio materials planned to be feasibly reproducible by industrial means rather than by one-off or by hand.
5. Demonstrate an understanding of the cultural and societal connections linking design trends and processes as well as a knowledge of business practices and of the market place. Assessment: Projects and portfolio solutions that are culturally- and audience-appropriate for the problem as posed by the business and market briefs for the project.

Summary of Requirements

PROGRAM REQUIREMENTS

DESIGN FOUNDATION COURSES

ADSN 103	2D Design	3
ADSN 105	Drawing I	3
ADSN 108	3D Design	3
ADSN 106	Drawing II	3
ADSN 205	Drawing III	3
ADSN 119A	Intro to Computer Applications I	3
ADSN 119B	Intro to Computer Applications II	3
ADSN 231	Digital Photography	3
ADSN 377	History of Modern Design	3
ADSN 380	History of Mod. Arch. & Urbanism	3

MAJOR REQUIREMENTS

ADSN 206	Interiors Drawing IV	3
ITDSN 215	Interior Construction Systems	3
ITDSN 217	Color Studies for Interiors	3
ITDSN 218	CADD (A, B)	6
ITDSN 218	Revit (A,B)	4
ITDSN 255	Studio I	3
ITDSN 256	Studio II	3
ITDSN 303	Materials, Products & Applications	3
ITDSN 304	Business Practices & Ethics	3
ITDSN 305	Studio III	3
ITDSN 306	Studio IV	3
ITDSN 307	Lighting/Acoustics Design	3
ITDSN 309	Human Factors Design	3
ITDSN 308	Building Codes	3
ITDSN 312	Furniture Design	3
ITDSN 355	Studio V	3
ITDSN 356	Studio VI	3
ITDSN 362	Construction Documents	3
ITDSN 399	Special Projects	1

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GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH	Math Core	3
HUM	Humanities Core	6
SOSC	Social Sciences Core	6
SCI	Natural Sciences Core	6
ADSN 117	Survey of Art History I	3
ADSN 118	Survey of Art History II	3
FYS 101	First Year Seminar	3
CAPS C390	Capstone Seminar	3
	Liberal Arts Electives	4

40

Total Semester Hours **127**

Suggested Program

FIRST SEMESTER

FYS 101	First Year Seminar	3
ADSN 117	Survey of Art History I	3
ADSN 103	2D Design	3
ADSN 105	Drawing I	3
ADSN 119A	Intro Computer Applications I	3

SECOND SEMESTER

ENGL 101	Academic Writing	3
MATH	Math Core	3
ADSN 118	Survey of Art History II	3
ADSN 108	3D Design	3

Interior Design Bachelor of Science Degree

ADSN 106	Drawing II	3
ADSN 119B	Intro Computer Applications II	3

THIRD SEMESTER

SCI	Natural Sciences Core	3
ADSN 231	Digital Photography	3
ADSN 377	History of Modern Design	3
ADSN 205	Drawing III	3
ITDSN 218A	CAD I	2
ITDSN 255	Studio I	3

FOURTH SEMESTER

SOSC	Social Sciences Core	3
ADSN 380	History of Modern Arch. & Urbanism	3
ITDSN 217	Color Studies for Interiors	3
ADSN 206	Interiors Drawing IV	3
ITDSN 218B	CADD II	2
ITDSN 266	Studio II	3

FIFTH SEMESTER

HUM	Humanities Core	3
ITDSN 309	Human Factors	3
ITDSN 305	Studio III	3
ITDSN 215	Interior Construction Systems	3
ITDSN 218D	Revit 1	2
ITDSN 308	Building Codes	3

SIXTH SEMESTER

SCI	Natural Sciences Core	3
SOSC	Social Sciences Core	3
ITDSN 303	Materials, Products & Applications	3
ITDSN 304	Business Practices	3
ITDSN 306	Studio IV	3
ITDSN 218D	Revit 2	2

SEVENTH SEMESTER

CAPS C390	Capstone Seminar	3
HUM	Humanities Core	3
ITDSN 355	Studio V	3
ITDSN 307	Lighting & Acoustic Design	3
ITDSN 312	Furniture Design	3

EIGHTH SEMESTER

	Electives-Liberal Arts	4
ITDSN 362	Construction Documents	3
ITDSN 356	Studio VI	3
ITDSN 399	Special Projects	1

Total Semester Hours 129

International Political Economy and Diplomacy Bachelor of Arts

NOTE: THIS PROGRAM IS NO LONGER ACCEPTING NEW STUDENTS OR INTERNAL TRANSFERS
Carlson Hall
Telephone: (203) 576-4153
Fax: (203) 576-4967

Curriculum and Program Requirements

The major in International Political Economy and Diplomacy provides students with a comprehensive understanding of the global political economy as well as the analytical skills to evaluate change and direction. Political economy describes the nexus between politics and economics, and international political economy studies the arena where international politics and international economics meet. The subject matter of International Political Economy is the study of the international economic system and how it produces, distributes, and uses wealth. The study of the international political system focuses a set of institutions and rules by which social and economic interactions are governed. It represents an investigation of the political basis of economic action and the economic basis of political action. An important additional consideration is the role of international law in developing universal principles and norms in the conduct of international relations, and governing of relations between states and their citizens. Because diplomatic negotiations form the basis of new international law, and because diplomacy operates within the framework of extant international law, the study of diplomacy is an important component in the study of international political economy.

Learning Outcomes

The B.A. in International Political Economy & Diplomacy has the following learning outcomes: 1) students will demonstrate an ability to explain and compare different political and economic systems; 2) students will be able to reflect on the role of culture, history and religion in international political economy; 3) students will be able to explain the role of diplomacy and conflict resolution in international relations; 4) Students will demonstrate a basic working knowledge of a world language other than one's mother

tongue; 5) students will demonstrate the ability to use critical thinking in their evaluation of issues and problems in international political economy; and 6) students will demonstrate practical skills in helping resolve global disputes through diplomacy and conflict resolution.

* Note that for all College of Public and International Affairs majors, a portfolio is collected to track progress in programmatic outcomes.

Summary of Requirements

PROGRAM REQUIREMENTS

SOSC 207	World Regional Geography	3
WREL 101	Intro to World Religions	3
SOC 231	Cultural Anthropology	3
PSCI 103	Intro to Political Science and Political Science Research Methods	3
ECON 201 or IPED 201	Macro Economics	3
ECON 202 or IPED 202	Economics and Development	3
IPED 206	Micro Economics	3
IPED 206	Intro to Political Economy	3
PSCI 312	Pol. Eco. of North/South Relations	3
PSCI 312	Diplomacy & Foreign Policy	3

TWO OF THE FOLLOWING

PSCI 101 or IPED 345	American Government	3
or IPED 329	Political Economy of EU	3
IPED/PSCI 321	Political Economy of China	3
IPED 340	Political Economy of Latin America	3
WREL 374	Religion and Politics in the Middle East	3

TWO OF THE FOLLOWING

PSCI 204	Government and Politics Abroad	3
PSCI 203	U.S. Foreign Policy	3
PSCI 305 or PSCI 207	International Relations	3
PSCI 208 or PSCI 209	World Politics	3
PSCI 208 or PSCI 209	Intro to International Law	3
PSCI 208 or PSCI 209	Intro to United Nations Studies Program Tracks	3

Students may, in consultation with their advisor, choose a minor or a concentration by taking 15 to 18 credit hours of course work in one of the following areas; however this is not a requirement:

POLITICAL SCIENCE

PSCI 101 or PSCI 103	American Government	3
PSCI 204	Intro to Political Science and Political Science Research Methods	3
PSCI 207	Government and Politics Abroad	3
PSCI 208	World Politics	3
IPED 206 or PSCI 209	Intro to International Law	3
SOSC 207	Intro to United Nations Studies	3
PSCI 208	World Regional Geography	3

PSCI 323 or PSCI 324	Classics in Political Theory	3
PSCI 323 or PSCI 324	Recent Political Theory	3

ASIA-PACIFIC STUDIES

IPED/PSCI 321	Political Economy of East Asia	3
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PLUS ANY FOUR OF THE FOLLOWING COURSES:

IPED 329	Political Economy of China	3
PSCI 203	U.S. Foreign Policy	3
WREL 229	Confucianism and Daoism	3
WREL 102	Introduction to East Asian Religions	3
WREL 205	Buddhism	3

PEACE AND DEVELOPMENT STUDIES

IPED 391	Sustainable Development	3
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PLUS ANY FOUR OF THE FOLLOWING COURSES:

IPED 392	Geopolitics of Oil	3
IPED/PSCI 321	Political Economy of East Asia	3
WREL 275	Religion, Conflict and Mediation	3
WREL 278	Religion, Peace, and War	3
WREL 305	Comparative Religious Ethics	3
WREL 374	Religion and Politics in the Middle East	3

AMERICAS STUDIES

PSCI 101	American Government	3
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PLUS ANY FOUR OF THE FOLLOWING COURSES:

GLDP 411	Issues in Economic Development	3
PSCI 203	U.S. Foreign Policy	3
MCOM 290	Intercultural Communication	3
IPED 340	Political Economy of Latin America	3
IPED 392	Geopolitics of Oil	3
IPED 390	Multinational Corporations in IPE	3

MIDDLE EAST STUDIES

WREL 374	Religion and Politics in the Middle East	3
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PLUS ANY FOUR OF THE FOLLOWING COURSES:

PSCI 203	U.S. Foreign Policy	3
IPED 392	Geopolitics of Oil	3
WREL 103	Introduction to Religions of Middle Eastern Origin	3
WREL 209	Islam	3
WREL 275	Religion, Conflict and Mediation	3
MCOM 290	Intercultural Communication	3

FOREIGN LANGUAGE REQUIREMENT

All IPED majors must demonstrate a working knowledge of at least one world language besides English or complete through the 104 level of one of the following languages currently offered at the University: Chinese, Korean, Japanese, French, or Spanish.

THESIS AND INTERNSHIP GUIDELINES

A senior thesis is voluntary but strongly encouraged. Depending on the scope of the project, a thesis may account for 3 to 6 credit hours. While not required, students are encouraged to write on a subject related to their field of concentration, should they have elected one. In addition,

International Political Economy and Diplomacy Bachelor of Arts

one semester of internship is also strongly encouraged. Internship may account for 3 to 6 credit hours.

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH	Math 102/103 or above	3
FYS 101	First Year Seminar	3
HUM	Humanities Core	6
SCI	Natural Sciences Core	6
SOSC	Social Sciences Core	6
FA	Fine Arts Core	3
CAPS C390	Capstone Seminar	3
	Liberal Arts Electives	7
TOTAL		120

Intl. Pol Econ Elective	3
Free Elective	3

SEVENTH SEMESTER

INTST C101B	Integrated Studies	3
	Intl. Pol Econ Elective	3
	Free Electives	9

EIGHTH SEMESTER

CAPS C390	Capstone Seminar	3
	Intl. Pol Econ Elective	3
	Free Electives	9

*Students who do not meet the modern language requirement for the B.A. degree must use 3-12 semester hours free electives, depending on their level of competency, to satisfy this requirement.

Suggested Program

FIRST SEMESTER

ENGL 101	Academic Writing	3
MATH	Math Core	3
WREL 101	Intro to World Religions	3
	Political Science Core	3
FYS 101	First Year Seminar	3

SECOND SEMESTER

FA	Fine Arts Core	3
SOC 231	Cultural Anthropology	3
SOSC 207	World Geography	3
	Free Elective	3
	Free Elective	3

THIRD SEMESTER

HUM	Humanities Core	3
SOSC	Social Sciences Core	3
ECON 201	Macro-Economics	3
	Political Science Elective	3
	Free Elective	3

FOURTH SEMESTER

HUM	Humanities Core	3
SOSC	Social Sciences Core	3
ECON 202	Micro-Economics	3
	Political Science Elective	3
	Free Elective	3

FIFTH SEMESTER

SCI	Natural Sciences Core	3
PSCI 354	Intl. Political Economy	3
	Economics Elective	3
	Intl Pol Econ Elective	3
	Free Elective	3

SIXTH SEMESTER

SCI	Natural Sciences Core	3
PSCI 206	North/South Relations	3
	Econ Elective	3

Mass Communication Bachelor of Arts Degree

NOTE: THIS PROGRAM IS NO LONGER
ACCEPTING NEW STUDENTS OR
INTERNAL TRANSFERS
Carlson Hall
Telephone: (203) 576-2451

Program Description

The Bachelor of Arts degree is awarded in Mass Communication, with concentrations in Advertising, International Communication, Fashion Business communication, Journalism, Public Relations, and Sports Communications. The Mass Communication Program offers students an interdisciplinary foundation in the basic theory and skills necessary to become media practitioners and more informed media consumers. Students have the opportunity for internships and independent projects that allow them to have real world experience in the mass media professions. Graduates of this program have gone on to a variety of careers in the media field, including those in advertising, corporate communication, public relations, journalism, and broadcasting. Recent graduates have also gone onto top graduate program in Journalism and Mass Communication.

Students attaining the degree in Mass Communication must complete 36 hours of coursework in the Mass Communication area. All students must complete the 12-hour core requirements. In addition, students must complete 12 hours in one of the concentrations.

In addition to the 12-hour core and 12-hour concentration, students are also required to complete an additional 12-hour elective coursework in Mass Communication for a total of 36 hours. Students are required to successfully pass courses in Mass Communication with a grade of C or better. Semester hours earned for a grade below C in an elective Mass Communication course (including those no longer offered), not raised to a C or better, will be added beyond the 120 otherwise needed for graduation.

Learning Outcomes

Students of the B.A. in Mass Communication Program will: 1) demonstrate effective speaking and listening skills for communication in personal, public, and media areas; 2) demonstrate effective writing skills for communication in personal, public, and media areas;

3) demonstrate the ability to observe events, gather information, write news reports and news releases, report on events, and edit other people's writings; 4) demonstrate the ability to understand the media critically and recognize how media shape and are shaped by politics, society, culture, economics, and daily lives; 5) demonstrate the ability to recognize the power of persuasion and ethical responsibilities of communicators in communication at all levels; 6) demonstrate an understanding of the roles of communication in fostering interaction and interdependence across gender, race, and culture; 7) demonstrate the ability to apply communication theories to analyze contemporary problems; 8) demonstrate an understanding of the history, development, and practice of the print media, electronic media, and the new media.

* Note that for all School of Public and International Affairs majors, a portfolio is collected to track progress in programmatic outcomes.

Internships, Cooperative Education

Students are strongly encouraged to obtain working experience in the Mass Communication field through either the cooperative education program or the internship program. To participate in either co-op or internship, students must meet the following requirements:

- a. be of junior standing
- b. have completed at least 18 hours of coursework in mass communication
- c. have at least a 2.5 QPA in mass communication with no grade below a C-minus
- d. be a student in good academic standing at the university

Students may apply three (3) semester hours of co-op internship or independent study to the thirty-six (36) hours required in the mass communication major. Additional hours of co-op, internship or independent study credit may be applied to general elective credits required for graduation.

Depth Study

Students are encouraged to obtain a minor of 18-24 semester hours in another department, or a concentration of 15 semester hours of related courses outside Mass Communication minor and concentrations should be chosen

in consultation with an advisor.

Summary of Requirements

PROGRAM REQUIREMENTS (36 SEMESTER HOURS)

MASS COMMUNICATION CORE

MCOM 110	Public Communication	3
MCOM 111	Introduction to Mass Communication	3
MCOM 211	Communication Theory	3
MCOM 395	Senior Seminar in Mass Communication	3
		12

CONCENTRATIONS

CHOICE OF 15 SEMESTER HOURS IN ONE OF THE CONCENTRATIONS LISTED BELOW

ADVERTISING

MCOM 220	Introduction to Advertising	3
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TAKE FOUR COURSE FROM THE FOLLOWING:

MCOM 323	Advertising Copywriting	3
MCOM 330	Advertising Media Planning	3
MCOM 339	Advertising and PR Campaigns	3
MCOM 201	Persuasive Communication	3
MCOM 270	Public Relations	3
MCOM 357	Portfolio Project	3
		15

INTERNATIONAL COMMUNICATION

MCOM 290	Intercultural Communication	3
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(PLUS ANY FOUR OF THE FOLLOWING COURSES)

MCOM 284	Business and Professional Communication	3
SOC 231	Cultural Anthropology	3
PSCI 206	Pol. Eco. of North/South Relations	3
PSCI 204	Government and Politics Abroad	3
PSCI 305	International Relations	
or PSCI 207	World Politics	
or PSCI 312	Diplomacy & Foreign Policy	
or PSCI 209	Intro to United Nations Studies	3
WREL 275	Religion, Conflict and Mediation	3
WREL 305	Comparative Religious Ethics	3
WREL 374	Religion and Politics in the Middle East	3
WREL 348	Religion and Society	3
WREL 288	Internet Religion	3
WREL 305	Comparative Religious Ethics	3
WREL 348	Religion and Society	3
		15

FASHION JOURNALISM

MCOM 247	Fashion Journalism	3
FM 101	Fashion Fundamentals	3
MCOM 392	Fashion Journalism Internship	3

TAKE TWO COURSES FROM THE FOLLOWING:

Mass Communication Bachelor of Arts Degree

MCOM 240	News Reporting & Writing	3	TOTAL SEMESTER HOURS	120	Total Semester Hours	120
MCOM 284	Business and Prof Communication	3				
MCOM 341	Magazine and Feature Writing	3				
MCOM 345	Newspaper Editing & Production	3				
MCOM 390	Media Law and Ethics	3				
		15				
JOURNALISM			FIRST SEMESTER			
MCOM 240	News Reporting	3	FYS 101	First Year Seminar	3	
MCOM 341	Magazine and Feature Writing	3	ENGL 101	Academic Writing	3	
MCOM 345	Newspaper Editing and Production	3	HUM	Humanities	3	
MCOM 360	Broadcast Journalism	3	MCOM 110	Public Communication	3	
MCOM 390	Media Law and Ethics	3		Foreign Language 101	3	
		15				
PUBLIC RELATIONS			SECOND SEMESTER			
MCOM 270	Public Relations	3	MATH	Math Core	3	
			HUM	Humanities Core	3	
TAKE FOUR COURSE FROM THE FOLLOWING:			MCOM 111	Introduction to Mass Communication	3	
MCOM 201	Persuasive Communication	3		Foreign Language 102	3	
MCOM 346	Media Management	3		Elective	3	
MCOM 384	Organizational Communication	3	THIRD SEMESTER			
MCOM 339	Advertising and PR Campaigns	3	SOSC	Social Science	3	
MCOM 370	Publicity Methods	3	FA	Fine Arts Core	3	
		15	MCOM 211	Communication Theory	3	
SPORTS JOURNALISM			MCOM 220	Introduction to Advertising		
MCOM 251	Sports Journalism	3	or MCOM 270	Public Relations	3	
MCOM 398	Sports Journalism Internship	3		Elective	3	
TAKE THREE COURSE FROM THE FOLLOWING:			FOURTH SEMESTER			
MCOM 240	News Reporting & Writing	3	SOSC	Social Science Core	3	
MCOM 255	Sports Business and Marketing	3	MCOM 323	Advertising Copywriting		
MCOM 360	Broadcast Journalism	3	or MCOM 370	Publicity Methods	3	
MCOM 341	Magazine and Feature Writing	3		Mass Communication Elective	3	
MCOM 354	Media, Sports, & Society	3		Elective	6	
PSYC 355	Sports Psychology	3	FIFTH SEMESTER			
MCOM 390	Media Law and Ethics	3	SCI	Natural Science Core	3	
		15	MCOM 330	Advertising Media Planning	3	
MASS COMMUNICATION ELECTIVES		12		Mass Communication Elective	3	
FREE ELECTIVES*		33		Elective	3	
FOREIGN LANGUAGE		6		Liberal Arts Elective	3	
GENERAL EDUCATION REQUIREMENTS			SIXTH SEMESTER			
ENGL 101	Academic Writing	3	SCI	Natural Science Core	3	
MATH	Math Core	3	MCOM	Advertising and PR Campaigns	3	
HUM	Humanities Core	6		Mass Communication Elective	3	
SOSC	Social Science Core	6		Liberal Arts Elective	3	
FA	Fine Arts Core	3		Elective	3	
SCI	Natural Science Core	6	SEVENTH SEMESTER			
FYS 101	First Year Seminar	3	CAPS C390	Capstone Seminar		
CAPS C390	Capstone Seminar	3	or MCOM 395	Senior Seminar in Mass Communication	3	
	Liberal Arts Electives	7		Mass Communication Elective	3	
				Liberal Arts Elective	3	
				Electives	6	
EIGHTH SEMESTER						
			CAPS C390	Capstone Seminar	3	
				Electives	12	

Mathematics Bachelor of Arts Degree

Charles Dana Hall
Telephone: (203) 576-4174
Fax: (203) 576-4051

Curriculum and Program Requirements

The Bachelor of Arts in Mathematics is a program in mathematics and its applications. It provides the student with the fundamentals of major areas of mathematics, as well as exposure to one or more cognate areas in which mathematics is applied. The program provides the background for further study of mathematics and cognate areas in which mathematics plays a key role. Employment opportunities have traditionally existed in industry, technology, and in financial, actuarial, and educational institutions.

A minimum cumulative GPA of 2.5 is required and a "C" or better is required in all math courses. The program requires 36 semester hours in mathematics and 12 semester hours in physics and 6 semester hours in computer science, some of which can serve to satisfy general education requirements. The program also requires 6 credit hours of a single foreign language. Suggested electives include PHIL 104 (Logic and Scientific Method), HIST 232 (History of Science) and PHIL 213 (Philosophy of Science), all of which can serve to satisfy general education requirements.

The following year-by-year course displays are to be regarded as illustrative of a typical program leading to a Bachelor of Arts degree in mathematics with a total of 120 semester hours required for graduation.

Learning Outcomes

Students with a B.A. in Mathematics will 1) have learned fundamental knowledge of Mathematics and be prepared to pursue graduate study in mathematics; 2) have well-developed quantitative and analytical skills; 3) be able to use skills in mathematical reasoning and critical thinking to understand and analyze phenomena of nature, modern science and society; 4) be able to make inferences from data and to communicate, prove and justify their findings; 5) be prepared for various qualifying examinations such as the Graduate Record Examination (GRE) and PRAXIS.

Summary of Requirements

GENERAL EDUCATION REQUIREMENTS

ENGL 120	Public Communication	3	FA	Fine Arts Core	3
FYS 101	First Year Studies	3		Foreign Language II	3
ENGL 101	Academic Writing	3		Diff. Equations	3
PHYS 207	Principles of Physics I	4		Discrete Math	3
PHYS 208	Principles of Physics II	4		Social Sciences Core	3
HU	Humanities Core	6		Principles of Physics III	4
FA	Fine Arts Core	3			
SS	Social Sciences Core	6			
	Liberal Arts Electives	6			
CAPS 390	Capstone Seminar	3			
			41		

PROGRAM REQUIREMENTS

MATH 110	Calculus and Analytic Geometry I	4	MATH 314	Numerical Methods	3
MATH 112	Calculus and Analytic Geometry II	4	MATH 323	Probability & Statistics I	3
MATH 214	Linear Algebra	3		Free Electives	6
MATH 215	Calculus and Analytic Geometry III	4	MATH 324	Probability & Statistics II	3
MATH 227	Discrete Structures	3	SS	Social Sciences Core	3
MATH 281	Differential Equations	3	MATH 319	Number Theory	3
MATH 314	Numerical Methods	3	HU	Humanities Core	6
MATH 319	Introduction to the Theory of Numbers*	3		Liberal Arts Elective	3
MATH 323	Probability and Statistics I	3			
MATH 324	Probability and Statistics II	3			
MATH 391	Modern Algebra*	3			
CPSC 101	Introduction to Computing I	3	CAPS 390	Capstone Seminar	3
CPSC 102	Introduction to Computing II	3			
PHYS 209	Principles of Physics III	4			
		46			

* Offered in alternate years.

Foreign Language

** Six credit hours of a single language, requirement waived if student's first language is other than English.

Free Electives

Total Semester Hours

120

Suggested Program

FIRST YEAR

ENGL 101	Academic Writing	3
MATH 110	Calculus I	4
CPSC 101	Introduction to Computing I	3
FYS 101	First Year Seminar	3
MATH 112	Calculus II	4
PHYS 207	Principles of Physics I	4
CPSC 102	Introduction to Computing II	3
	Foreign Language I	3
ENGL 120	Public Communication	3

SECOND YEAR

MATH 214	Linear Algebra	3
MATH 215	Calculus III	4
PHYS 208	Principles of Physics II	4

Mathematics Bachelor of Science Degree

Charles Dana Hall
Telephone: (203) 576-4174
Fax: (203) 576-4051

Curriculum and Program Requirements

The Bachelor of Science in Mathematics is a program in mathematics and its applications. It provides the student with the fundamentals of major areas of mathematics, as well as exposure to one or more cognate areas in which mathematics is applied. The program provides the background for further study of mathematics and cognate areas in which mathematics plays a key role. Employment opportunities have traditionally existed in industry, technology, and in financial, actuarial, and educational institutions.

A minimum cumulative GPA of 2.5 is required and a "C" or better is required in all math courses. The program requires 36 semester hours in mathematics and 12 semester hours in physics and 6 semester hours in computer science, some of which can serve to satisfy general education requirements. The program also requires 12 credit hours in a quantitative area of concentration. Choices for a concentration include courses from science, engineering, economics and finance, and the social sciences. Suggested electives include PHIL 104 (Logic and Scientific Method), HIST 232 (History of Science) and PHIL 213 (Philosophy of Science), all of which can serve to satisfy general education requirements.

MATHEMATICS MINOR

The minor in mathematics requires MATH 110, MATH 112, MATH 215 and at least two courses at the 200 level or higher, with the exception of MATH 203. Students must maintain a "C" or better in all math courses.

The following year-by-year course displays are to be regarded as illustrative of a typical program leading to the Bachelor of Science degree in mathematics with a total of 120 semester hours required for graduation.

Learning Outcomes

Students with a B.S. in Mathematics will 1) have learned fundamental knowledge of Mathematics and be prepared to pursue

graduate study in mathematics; 2) have well-developed quantitative and analytical skills; 3) be able to use skills in mathematical reasoning and critical thinking to understand and analyze phenomena of nature, modern science and society; 4) be able to make inferences from data and to communicate, prove and justify their findings; 5) be prepared for various qualifying examinations such as the Graduate Record Examination (GRE) and PRAXIS.

Summary of Requirements

GENERAL EDUCATION REQUIREMENTS

MCOM 110	Public Communication	3
FYS 101	First Year Studies	3
ENGL 101	Academic Writing	3
PHYS 207	Principles of Physics I	4
PHYS 208	Principles of Physics II	4
HU	Humanities Core	6
FA	Fine Arts Core	3
SS	Social Sciences Core	6
	Liberal Arts Electives	6
CAPS 390	Capstone Seminar	3
		41

PROGRAM REQUIREMENTS

MATH 110	Calculus and Analytic Geometry I	4
MATH 112	Calculus and Analytic Geometry II	4
MATH 214	Linear Algebra	3
MATH 215	Calculus and Analytic Geometry III	4
MATH 227	Discrete Structures	3
MATH 281	Differential Equations	3
MATH 314	Numerical Methods	3
MATH 319	Introduction to the Theory of Numbers*	3
MATH 323	Probability and Statistics I	3
MATH 324	Probability and Statistics II	3
MATH 391	Modern Algebra*	3
CPSC 101	Introduction to Computing I	3
CPSC 102	Introduction to Computing II	3
PHYS 209	Principles of Physics III	4
		46

ELECTIVES (IN CONCENTRATION) **12**

FREE ELECTIVES **21**

Total Semester Hours **120**

Suggested Program

FIRST YEAR

ENGL 101	Academic Writing	3
MATH 110	Calculus I	4
CSPC 101	Introduction to Computing I	3
FYS 101	First Year Seminar	3
MATH 112	Calculus II	4
PHYS 207	Principles of Physics I	4
CSPC 102	Introduction to Computing II	3
	Free Elective	3
MCOM 110	Public Communication	3

SECOND YEAR

MATH 214	Linear Algebra	3
MATH 215	Calculus III	4
PHYS 208	Principles of Physics II	4
FA	Fine Arts Core	3
	Elective in Concentration	3
MATH 281	Diff. Equations	3
MATH 227	Discrete Math	3
SS	Social Sciences Core	3
PHYS 209	Principles of Physics III	4

THIRD YEAR

MATH 314	Numerical Methods	3
MATH 323	Probability & Statistics I	3
	Free Elective	3
	Elective in Concentration	3
MATH 324	Probability & Statistics II	3
SS	Social Sciences Core	3
MATH 319	Number Theory	3
HU	Humanities Core	6
	Liberal Arts Elective	3

FOURTH YEAR

MATH 391	Modern Algebra	3
	Liberal Arts Elective	3
	Electives in Concentration	6
	Free Electives	15
CAPS 390	Capstone Seminar	3

Total Semester Hours **120**

* Offered in alternate years.

Music Bachelor of Music Degree

Arnold Bernhard Center
Telephone: (203) 576-4407

Program Description

The Music & Performing Arts Program offers a 120-credit Bachelor of Music degree with concentrations in Music Education, Performance, and Business. Bachelor of Music candidates must complete the core curriculum, music core courses, and the appropriate coursework in the concentration to graduate.

Learning Outcomes

By completing the Bachelor of Music degree, students will:

- Develop a strong foundation in the theory and history of music.
- Select one or more musical concentrations—performance, education, or business—and develop foundational skills in that area.
- Further develop their skills as a singer or instrumentalist.
- Possess sufficient musical acumen to make creative contributions to musical performances and ensembles.
- Further their ability to work in, learn from, and teach groups composed of learners from diverse backgrounds and with multiple skill levels.
- Be able to connect musical knowledge with the learning occurring in the general education component of the undergraduate curriculum.

JURIES

At the discretion of the applied music faculty, in consultation with the program director, music majors will take an examination in their major applied area before a music faculty jury during the final examination period of each semester.

MUSIC, BACHELOR OF MUSIC

Summary of Requirements

MUSIC CORE COURSES

42 credits, as follows:

MUSC 109	Music Theory I	3
MUSC 110	Music Theory II	3

MUSC 215	Music Theory III	3	<i>Appropriate coursework in music, music education, or theater as advised. Enrollment in at least one ensemble is normally required each semester of residence. Enrollment in applied music study is normally required each semester of residence. Chair may determine that proficiency is established and may waive requirements.</i>
MUSC 216	Music Theory IV	3	
MUSC 109A	Aural Theory I	1	
MUSC 110A	Aural Theory II	1	
MUSC 215A	Aural Theory III	1	
MUSC 216A	Aural Theory IV	1	

At least two credits of piano study.

At least twelve credits in the history and literature of music.

At least three credits in music technology.

At least six credits of private instruction on the major instrument.

At least three credits of ensembles.

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH	Mathematics Core	3
HUM	Humanities Core	6
SOSC	Social Sciences	6
SCI	Natural Sciences Core	6
FA	Fine Arts Core	3
FYS 101	First Year Studies	3
CAPS C390	Capstone Seminar	3
	Liberal Arts Electives	7
		40

CONCENTRATIONS WITHIN THE BACHELOR OF MUSIC DEGREE

Music students may pursue the following concentrations:

Music Performance

(An audition is required for entrance into this major.)

The Music Performance concentration within the Bachelor of Music degree is designed to refine and develop skills essential to professional musicians. It allows students to deepen their skills as a solo and ensemble performer working in one or more genres. Extensive experience performing collaboratively in ensembles and as a soloist are central to this concentration. Students study a major instrument, including bass, bassoon, clarinet, drumset, flute, guitar, harpsichord, horn, oboe, percussion, piano, saxophone, sitar, tabla, trumpet, trombone, tuba, violin, viola, violoncello, or voice.

38 credits, drawn by advisement from the following:

THA 115	Stagecraft I	3
MUSC 256	Fundamentals of Piano	3
MUSC 209	The Business of Music	3
MUSC 395	Senior Recital	1

Appropriate coursework in music, music education, or theater as advised. Enrollment in at least one ensemble is normally required each semester of residence. Enrollment in applied music study is normally required each semester of residence. Chair may determine that proficiency is established and may waive requirements.

Music Education

(An audition is recommended, but not required, for this major).

The Music Education concentration within the Bachelor of Music degree is designed to provide foundational training and experiences for prospective music teachers, and prepare them to begin graduate studies leading to certification as a public school music educator. The Music Program and the University's School of Education offer a master's degree (M.S.) which leads to initial teaching certification in music. The B.M. in Music Education is designed to work in conjunction with this graduate program.

38 credits, drawn by advisement from the following:

MSED 240	Field Experience in Music Ed.	1
MSED 320-326	Secondary Instrument Skills	3
MSED 311	Conducting	3
MUSC 208A-B	Jazz Improvisation	3
MUSC 256	Fundamentals of Piano II	3
THA 115	Stagecraft I	3

Appropriate coursework in music, music education, theater, or psychology as advised. Enrollment in at least one ensemble is normally required each semester of residence, including experience in choral and instrumental ensembles. Enrollment in applied music study is normally required each semester of residence. Chair may determine that proficiency is established and waive requirements.

Music Business

(An audition is not required for this major).

The Music Business concentration is a combination of professional music study and courses tailored by advisement to the student's strengths, interests, and career plans. Due to the great diversity found within the music industry, exact coursework will differ. Some coursework may be taken in UB's Ernest C. Trefz School of Business or School of Engineering, as well as in Mass Communica-

Music Bachelor of Music Degree

tions. This concentration is designed to help musicians become entrepreneurial.

38 credits, drawn by advisement from the following:

THA 115	Stagecraft I	3
MUSC 256	Fundamentals of Piano	3
MUSC 209	The Business of Music	3
MUSC 398	Internship	1

Appropriate coursework in music, music education, theater, mass communication, business, or other, as advised. The program maintains an updated list of recommended courses in other programs and schools. Many Music Business students complete the certificate in entrepreneurship in the Trefz School of Business. Enrollment in at least one ensemble is normally required each semester of residence. Enrollment in applied music study is normally required each semester of residence. Director may determine that proficiency is established and may waive requirements.

Theatre Arts (Minor)

Telephone: (203) 576-4407

Curriculum and Program Requirements

The Music & Performing Arts Program offers a minor in theatre. Students wishing to minor in theatre must complete at least 18 credits drawn from THA, MUSC, MSED and ENGL courses, as approved by a departmental advisor. The program encourages students to take at least one course in each of the following four areas:

- Acting, scene study, movement, and voice (THA 107, 108, 133, 135, 233; APM 100)
- Dramatic literature (THA 299, various ENGL courses)
- Stagecraft and theater technology (THA 115, 120)
- Participation in a mainstage production (THA 215)

Performing Arts Bachelor of Arts Degree

NOTE: THIS PROGRAM IS NO LONGER
ACCEPTING NEW STUDENTS OR
INTERNAL TRANSFERS
Bernhard Center
Telephone: (203) 576-4407

Curriculum and Program Requirements

The Music & Performing Arts Department offers the Bachelor of Arts degree in Performing Arts with concentrations in Music and Theater. Bachelor of Arts candidates must complete the core curriculum and the appropriate coursework in the major to graduate. The department chair may determine that proficiency is established and may waive requirements; however, 120 credits are required to earn a Bachelor's degree. Students study a combination of theater and music, and may wish to take relevant coursework drawn from our English and Mass Communication programs, as well as the Trefz School of Business and other areas as appropriate. This liberal arts degree includes coursework in acting, technical theater, dramatic literature, movement, applied music (vocal or instrumental study, as appropriate), music theory and history, and relevant technological and entrepreneurial skills. Students must elect a concentration in theater or music. The program seeks to produce broadly educated graduates with substantial knowledge of, and skills in, one or more aspects of the performing arts.

Music Concentration

The Music concentration within the Bachelor of Arts degree in Performing Arts is designed to allow interested students to engage in collegiate music study in a liberal arts context, laying the foundation for graduate study or internships and entry-level jobs in the field.

Theater Concentration

The Theater concentration within the Bachelor of Arts degree in Performing Arts is designed to allow interested students to study theater at the collegiate level in a liberal arts context, laying the foundation for graduate study or internships and entry-level jobs in

the field.

Learning Outcomes

By completing the Bachelor of Arts degree in Performing Arts, Music concentration, students will:

- Develop a foundation in the theory and history of music.
- Further develop their skills as a singer or instrumentalist.
- Possess sufficient musical acumen to make meaningful contributions to musical performances and ensembles.
- Gain an understanding of theater as an important part of human culture.
- Cultivate flexibility, versatility, and entrepreneurship, as appropriate to personal and career goals.
- Further their ability to work in, learn from, and teach groups composed of learners from diverse backgrounds and with multiple skill levels.
- Be able to connect musical knowledge with the learning occurring in other areas, including the general education component of the undergraduate curriculum.

By completing the Bachelor of Arts degree in Performing Arts, Theater concentration, students will:

- Develop their theatrical skills, focusing on acting and/or technical theater.
- Acquire or deepen their understanding of theater as an important part of human culture.
- Participate meaningfully in at least one University mainstage theatrical production.
- Cultivate flexibility, versatility, and entrepreneurship, as appropriate to personal and career goals.
- Further their ability to work in, learn from, and teach groups composed of learners from diverse backgrounds and with multiple skill levels.
- Be able to connect theatrical knowledge with the learning occurring in other areas, including the general education compo-

nent of the undergraduate curriculum.

Summary of Requirements

GENERAL EDUCATION REQUIREMENTS:

FYS 101	First Year Seminar	3
ENGL 101	Academic Writing	3
MATH 102/3	Mathematics	3
HUM	Humanities	6
SOSC	Social Sciences	6
SCI	Natural Sciences	6
FA	Fine Arts	3
CAPS 390	Capstone Seminar	3
	Liberal Arts Electives	7

MAJOR AND INDIVIDUAL CONCENTRATION

REQUIREMENTS

MUSIC CONCENTRATION:

MUSC 109	Music Theory I	3
MUSC 109A	Aural Theory I	1
MUSC 110	Music Theory II	3
MUSC 110A	Aural Theory II	1
MUSC 215	Music Theory III	3
MUSC 215A	Aural Theory III	1
MUSC 216	Music Theory IV	3
MUSC 216A	Aural Theory IV	1
THA 103	Introduction to Western Theater	3
THA 115 or 133	Stagecraft I or Fund. Of Acting	3
APM 100	Private Instruction	6

Nine credits in music history and literature.

Two credits in piano and two in music technology.

Three credits in ensembles.

Total: 44 credits.

THEATER CONCENTRATION

THA 133	Fundamentals of Acting	3
THA 135	Intermediate Acting	3
THA 107	Movement	3
THA 115	Stagecraft I	3
THA 120	Stagecraft II	3
THA 215	Applied Theater Production	3
THA 221	History of Theater	3
THA 233 or 234	Scene Study or Basic Scenic and Lighting Design	3

Two more 200-level courses in Theater. 6

One course in music history 3

At least two credits in piano. 2

MUSC 109	Music Theory I	3
MUSC 109A	Aural Theory I	1
MUSC 110A	Aural Theory II	1
	Electives	4

Total: 44 credits.

Political Science Bachelor of Arts/Bachelor of Science Degree

NOTE: THIS PROGRAM IS NO LONGER ACCEPTING NEW STUDENTS OR INTERNAL TRANSFERS
 Carlson Hall
 Telephone: (203) 576-4209
 Fax: (203) 576-4967

Curriculum and Program Requirements

The Political Science B.A./B.S. prepares students for careers and advanced studies in government, law, international affairs, public policy and administration, higher education, the media, and other professions that require an understanding of how governments work and interact with one another. Our majors explore questions about power, leadership, citizenship, and justice; and how all this impacts communities at the local, national, and global levels.

After taking Political Science 103, which introduces students to the field and methods of the discipline, students take a course in each of the following subfields of political science: American Politics, Comparative Politics, International Relations, and Political Theory. Upon completion of these core courses, students can individually tailor and specialize their training by focusing on a particular subfield and developing an independent research project, placement in an internship or volunteer experience relevant to their specialization (law firm or government agency, for example), and develop greater intercultural understanding and cultural competency through study abroad.

The skills and training our majors acquire prepare them for a wide range of careers. Our graduates accept positions with governments, international and non-governmental organizations, think tanks, international finance groups, multinational corporations, and law firms. Many pursue further study in fields such as law and public and international affairs at highly competitive universities. Others take on leadership and service roles in government and the non-profit sector to better their local communities.

Learning Outcomes

The B.A. and B. S. in Political Science have the following learning outcomes:

The Political Science major targets the devel-

opment of key skills required not only for success in the major and throughout a student's academic career, but in their professional development and career:

- clear and effective oral and written communication, including effective presentation skills and the ability to write in multiple formats;
- critical thinking and analysis, including information literacy and the ability to critically evaluate evidence, data, news coverage, and sources;
- the ability to initiate, develop, and conduct independent research;
- active, creative, and innovative problem solving through group work and applications of technology;
- practical work experience and opportunities to build professional networks; and
- cultural competency through language training, study abroad, and courses that promote greater intercultural understanding for an increasingly diverse, international, and multicultural workplace

Our majors have the opportunity to take classes across multiple disciplines in an invigorating, diverse, and multicultural learning community. We also offer a unique course in which students can learn about American and local state and city politics with classes co-taught with elected officials and community leaders. Our program also hopes to foster responsible citizenship and leadership locally, nationally, and internationally.

The Political Science B.A./B.S. requires 39 semester credit hours including 21 credit hours in the program core, 18 credit hours of Political Science electives, and 18 credit hours in one of the following minors: International Political Economy and Diplomacy, Mass Communications, or Criminal Justice. Students who do not want to take one of three minors may take an additional 18 credit hours of Political Science electives. The B.A. requires students to show modern language competency in either Arabic, Chinese, French, Japanese, Korean, Russian, or Spanish through the intermediate level (four semesters). Students are required to complete 120 credit hours to graduate.

Summary of Requirements

PROGRAM CORE COURSES (REQUIRED)

REQUIREMENTS

TOTAL REQUIRED COURSES: 7

TOTAL PROGRAM ELECTIVES: 6

CORE REQUIREMENTS (21 CREDITS)

PSCI 103	Introduction to Political Science	3
PSCI 101	American Politics	3
PSCI 204	Comparative Politics	3
PSCI 207	International Politics	3
PSCI 323	Political Theory	3
SOSC 300	Social Science Research Methods	3
PSCI 398	Internship	3

*PSCI/IPED 395 Senior Thesis: Satisfies CAPS 390 requirement for the Core Curriculum
 Political Science Electives (18 credits)
 Any six of the following:

PSCI 203	U.S. Foreign Policy	3
PSCI 208	International Law	3
PSCI 209	Introduction to United Nations Studies	3
PSCI 215	International Human Rights	3
PSCI 216	Gender Politics	3
PSCI 218	Human Security	3
PSCI 233	Intro to the US Legal System	3
PSCI 303	Political Economy of Latin America	3
PSCI 312	Diplomacy & Foreign Policy	3
PSCI 343	Constitutional Law	3
PSCI 373	Islam & Democracy	3
IPED 321	Political Economy of East Asia	3
IPED 329	Political Economy of China	3
IPED 341	Political Economy of the Middle East	3
IPED 345	Political Economy of the European Union	3

FOREIGN LANGUAGE REQUIREMENT (12 CREDITS)

B.A. Political Science majors are required to demonstrate proficiency in a foreign language through an examination or the completion of a fourth-semester foreign language class. For students in the B.S. Political Science program, a demonstrated proficiency in a foreign language through an examination or the completion of a fourth-semester foreign language class is recommended. B.S. students who do not meet the foreign language requirement through examination or coursework will complete an additional 12 credits of liberal arts electives with the approval of the program chair.

Minor in International Political Economy and Diplomacy, Mass Communication, or Criminal Justice. Students who do not wish to minor in any of these three programs may take 6 additional courses in Political Science (18 Credits with a Grade of C or better).

Psychology Bachelor of Science Degree

Bates Hall
Telephone: (203) 576-4158

Program Description

The Bachelor of Science degree in Psychology prepares students for work that requires liberal arts training as well as psychological knowledge and skills. The major provides students with a detailed awareness of the field of psychology, including its historical background, paradigms, methods, research findings, and applications. The major addresses the general areas of developmental, personality, social, cognitive, and abnormal psychology. It fosters the development of verbal, quantitative, analytical, and technological skills that are useful for work in psychology and related fields.

The major requires thirteen psychology courses (39 semester hours), including Introduction to Psychology (103), Lifespan Development Psychology (205), Abnormal Psychology (230), Social Psychology (240), Personality Psychology (303), Cognitive Psychology (307), Research Methods (321), Statistical Methods in Psychology (385) and five other elective psychology courses (fifteen semester hours total of psychology electives). A total of 120 credits are required for graduation. Students wishing to obtain a minor in Psychology must take Introduction to Psychology plus any five additional psychology courses (18 semester hours total including PSYC 103).

Learning Outcomes

By completing the B.S. in Psychology program, students will: 1) have learned the pre-history and the history of Psychology including the evolution of its main issues, topic areas, methods and applications; 2) know the major perspectives in Psychology including perspectives such as: Psychoanalytic/Psychodynamic, Behaviorist, Humanistic, Biological, and Socio-Cultural;; 3) understand the lifespan approach to human biological, cognitive and psychosocial development; 4) be able to provide examples of the major forms of psychological research including methodologies such as naturalistic observation, surveys, case studies and archival research, and the main features and techniques of psychological experimentation; 5) understand basic data orga-

nization, presentation and analysis including both inferential and descriptive statistics; 6) understand characteristics of psychological research including the limitations of correlation research, experimental biases, placebo effects and ethical issues regarding human subjects; 7) be able to critically evaluate the psychological research presented in the popular press; 8) be able to relate key psychological concepts and theories to their own personal lives; 9) understand how key psychological concepts and theories are applied in clinical, medical, educational, human services and corporate settings; and 10) understand connections between Psychology and such other disciplines as Philosophy, Biology, Sociology, Religion, and Human Services.

Summary of Requirements

MAJOR REQUIREMENTS

PSYC 103	Introduction to Psychology	3
PSYC 205	Lifespan Development Psychology	3
PSYC 230	Abnormal Psychology	3
PSYC 240	Social Psychology	3
PSYC 303	Personality Psychology	3
PSYC 307	Cognitive Psychology	3
PSYC 321	Research Methods	3
PSYC 385	Statistical Methods in Psychology	3
	Psychology Electives	15

Total Credits of Psychology Coursework 39

FREE ELECTIVES

FYS 101	First Year Seminar	3
ENGL 101	Academic Writing	3
MATH	Math Core + Math 103p	4
HUM	Humanities Core	6
SS	Social Science Core	6
NS	Natural Science Core	6
FA	Fine Arts Core	3
CAPS 390	Capstone Seminar	3
	Liberal Arts Electives	9

Total Semester Hours 120

Suggested Program

FIRST SEMESTER

ENGL 101	Academic Writing	3
HU/SS/FA	Gen. Ed. Requirement	3
FYS 101	First Year Seminar	3
PSYC 103	Introduction to Psychology	3
	Free Elective	2 or 3

SECOND SEMESTER

PSYC 205	Lifespan Development Psychology	3
PSYC	Psychology Elective	3
MATH	Math Core + Math 103p	4
HU/SS/FA	Gen. Ed. Requirement	3
	Free Elective	2 or 3

THIRD SEMESTER

PSYC 230	Abnormal Psychology	3
PSYC 385	Statistical Methods in Psychology	3
HU/SS/FA	Gen. Ed. Requirement	3
	Free Elective	6

FOURTH SEMESTER

PSYC 240	Social Psychology	3
PSYC 321	Research Methods	3
HU/SS/FA	Gen. Ed. Requirement	3
SCI	Natural Science Core	3
	Free Elective	3

FIFTH SEMESTER

PSYC 303	Personality Psychology	3
PSYC	Psychology Elective	6
SCI	Natural Science Core	3
	Free Elective	3

SIXTH SEMESTER

PSYC 307	Cognitive Psychology	3
HU/SS/FA	Gen. Ed. Requirement	3
	Free Elective	9

SEVENTH SEMESTER

CAPS 390	Capstone Seminar	3
PSYC	Psychology Elective	6
	Free Elective	6

EIGHTH SEMESTER

Free Elective	15
Total Semester Hours Required for Graduation	120

MINOR IN PSYCHOLOGY

Students seeking to complete a minor in Psychology are required to receive a grade of C or higher in PSYC 103 (Introduction to Psychology) as well as five additional 3- credit Psychology courses of their choosing offered by the Psychology Department (18 credits total). We allow the majority of the courses to be of your choosing within Psychology to allow a student to customize the minor to best fit their desired career path.

PSYC 103 Introduction to Psychology	3
Five additional PSYC courses	15
Total Credits of Psychology Coursework	18

Note: An online (or hybrid) program is available for this major, and follows the same requirements.

Social Sciences Bachelor of Arts Degree

NOTE: THIS PROGRAM IS NO LONGER
ACCEPTING NEW STUDENTS OR
INTERNAL TRANSFERS
Carlson Hall
Telephone: (203) 576-4453

Program Description

The Social Sciences major is designed to provide students with a liberal arts experience from the perspective of the social sciences. It is innovative both in its interdisciplinary approach to subject matter and the options it offers students to pursue their goals, whether in graduate school or government or the foreign service, in international agencies or business, in the law, teaching or community service. In addition to completing the major (i.e. meeting the requirements indicated in Groups I & II), students may choose to add (i) concentrations or minors in Criminal Justice, History, International Studies, Pre-Law, Political Science, Psychology, Sociology, or (ii) minors in career-related areas such as International Business, Finance, Human Services, and Education. Career opportunities traditionally available to liberal arts students are much enhanced by the flexibility the Social Science major permits. In its interdisciplinary approach, its emphasis on breadth as well as depth of learning, and its focus on practical skills, the Social Science major prepares students, for leadership roles in their communities and the world, and for self-fulfillment, and for success in their careers.

Learning Outcomes

Students in the B.A. in Social Sciences program will 1) possess a broad, liberal arts foundation and an understanding of how developments in social and intellectual history shape and affect human values and institutions; 2) demonstrate an understanding of basic social science methods; 3) demonstrate that they are conversant (i.e., possess a basic grasp) in the disciplines subsumed under the "social science" rubric at the University of Bridgeport, i.e., political science, economics, international studies, and sociology; 4) demonstrate a more advanced "working knowledge" of at least one social science discipline; 5) demonstrate they possess the cognitive competencies and study skills to succeed in advanced/graduate studies in any of the social sciences or in law or business;

6) demonstrate that they have the competencies needed to function competently in an entry-level social science-related career; and 7) demonstrate competency in written and oral communication.

or PSCI 209	Introduction to United Nations Studies	3
SOSC 207	World Regional Geography	3
PSCI 323	Classics in Political Theory	3
or PSCI 324	Recent Political Theory	3

18

Summary of Requirements

PROGRAM REQUIREMENTS

GROUP I

Economics	6
History	6
Political Science	6
Psychology	6
Sociology	6
	30

GROUP II

SOSC 395	Thesis or Senior Project	3
SOSC 300	Methods Seminar	3
	6	

Total Major Semester Hours: 36

Any changes to these requirements require advisor approval.

MINOR/CONCENTRATION

IN THE SOCIAL SCIENCES:

MINOR IN SOCIOLOGY

SOC 101	Introduction to Sociology	3
or SOC 102	Social Problems	3
SOC 204	Marriage and Family	3
SOSC 300	Research Methods	3
	Plus 3 electives with chair approval	9
		18

MINOR IN CRIMINAL JUSTICE

SOC 118	Intro to Criminal Justice	3
SOC 315	Criminology	3
PSCI 233	Introduction to the American Legal System	3
or PSCI 101	American Government	3
or SOC 311	Juvenile Delinquency	3
or SOC 270	Sociology of Deviance	3
HUSV 315	Substance Abuse and Chemical Dependency	3
PSCI 333	The Terror Network	3
SOC 398	Internship in Criminal Justice	3
		18

MINOR IN POLITICAL SCIENCE

PSCI 101	American Government	3
or PSCI 103	Intro to Political Science and Political Research Methods	3
PSCI 204	Government and Politics Abroad	3
PSCI 207	World Politics	3
IPED 206	Political Economy of North South Relations	3

MINOR IN PSYCHOLOGY

Psyc 103	Introduction to Psychology
	Plus 5 additional Psychology course

18

CONCENTRATION IN PRE-LAW

PSCI 101	American Government	3
PSCI 223	Introduction to the American Legal System	3
SOC 315	Criminology	3
PSCI 204	Government and Politics Abroad	3
or SOC 231	Cultural Anthropology	
PSCI 398	Law Internship	3

15

CONCENTRATION IN HISTORY

Any 5 History Courses. HIST 207 American History 1 and HIST 208 American History 2 are strongly recommended.
15

CONCENTRATION IN INTERNATIONAL STUDIES

PSCI 209	UN Studies	3
PSCI 207	World Politics	3
SOSC 207	World Regional Geography	3
PHIL 216	World Religions	3

12

FREE ELECTIVES*

20
12

FOREIGN LANGUAGE* Competency in a foreign language is required of all Social Science majors. Students may either demonstrate competency or complete coursework through the 104 level any language offered at the University.

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH	Math Core	3
or MATH C108	Ideas of Mathematics	3
HUM	Humanities Core	6
SCI	Natural Sciences Core	6
SOSC	Social Sciences Core	6
FA	Fine Arts Core	3
FYS	First year Studies	3
CAPS C390	Capstone Seminar	3
	Liberal Arts Electives	7

Total Semester Hours 120

Suggested Program

FIRST SEMESTER

ENGL 101	Academic Writing	3
HUM	Humanities Core	3
	Foreign Language 101	3

Social Sciences Bachelor of Arts Degree

MATH	Math Core	3
	History (Group I)	3

SECOND SEMESTER

HUM	Humanities Core	3
	Foreign Language 102	3
	Psychology (Group I)	3
FA	Fine Arts Core	3
	Political Science (Group I)	3

THIRD SEMESTER

SOSC	Social Sciences Core	3
	Foreign Language 103	3
	Sociology (Group I)	3
	Economics (Group I)	3
	Political Science (Group I)	3

FOURTH SEMESTER

SOSC	Social Sciences Core	3
	Foreign Language 104	3
	Economics (Group I)	3
	History (Group I)	3
	Elective	3

FIFTH SEMESTER

SCI	Natural Sciences Core	3
	Sociology (Group I)	3
	Psychology (Group I)	3
	Concentration 1, or Elective	3
	Liberal Arts Elective	3

SIXTH SEMESTER

SCI	Natural Sciences Core	3
SOSC 300	Seminar in Methods	3
	Concentration 2 & 3, or Electives	6
	Liberal Arts Elective	3

SEVENTH SEMESTER

SOSC 395	Thesis	3
	Concentration 4, or Elective	3
	Free Elective	6
	Liberal Arts Elective	3

EIGHTH SEMESTER

CAPS C390	Capstone Seminar	3
	Free Electives	12

Total Semester Hours **120**

*Students who do not meet the modern language requirement for the B.A. degree must use 3-12 semester hours free electives, depending on their level of competency, to satisfy this requirement.

Biology Master of Arts/Master of Science

Charles Dana Hall
Telephone (203) 576-4253
Fax: (203) 576-4262

The Biology Master's degree programs offer a contemporary biology curriculum that emphasizes the principles and experimental approaches of modern biology. The M.S. program emphasizes design and execution of experimental research, while the M.A. program emphasizes career building.

The program offers a variety of customized options so students may select an academic plan that best suits their goals. We offer degree course paths in Molecular Biology, Biomedical Science, or Ecology and Evolution. We also offer two degree options, the Master of Science (MS) or Master of Arts (MA) in Biology.

Degree Options

MASTER OF SCIENCE (M.S.) IN BIOLOGY

This option emphasizes design and execution of experimental work. In this program, the student will be required to complete a thesis featuring an original research. Students in this program will most likely be pursuing terminal degrees following the completion of their degree.

MASTER OF ARTS (M.A.) IN BIOLOGY

This option emphasizes career building. As a student in the M.A. degree program, students will have the option of pursuing an internship or completing their degree with coursework only. Students in the M.A. degree program will most likely be working professionals interested in advancing their careers by gaining expertise in the field of biology.

CAREERS AND PROFESSIONS AVAILABLE TO GRADUATES OF THE PROGRAM.

The program advances the skills and training of students with degrees in Biology or related fields, making them competitive for jobs in private, academic, and government research institutions, clinical laboratories, government agencies, teaching opportunities and those seeking to strengthen their applications to doctoral programs and other professional

programs. Graduates with master's degrees in biology are expected to have additional opportunities in nonscientist positions related to biology, in fields like sales, marketing, publishing, and research management. Some examples of nonscientist job titles that require or prefer a Master's degree include Proposal Development Specialist, Global Product Manager, Technical Sales Representative, and Land Management Specialist.

OBJECTIVES OF THE PROGRAM

The M.S. program requires a minimum of 30 credit hours of coursework designed to meet stated objectives of student learning for the program. All credit hours must therefore be graduate level (400-level or higher) courses in Biology, or cognate courses tailored to individual student interests, in Chemistry, Mathematics, Computer Science, Engineering, Health Science, or Medical Technology. All cognate courses are subject to departmental approval of their contributions to either the research or career skill acquisitions listed in the programs objectives (see item III.1 below). Every student in the program must take the core courses Biology 445, 470, 490, 498 or 499 and Math 423/423B. Those electing the thesis option (M.S.) must complete twenty four credits of course work and six credits of Master's Research, culminating in a written thesis and oral defense, demonstrating the program's objective of successful acquisition by the student of independent research skills. Students choosing the non-thesis option (M.A.) must either complete thirty three credits of course work in Biology or cognate courses aimed at further acquisition and refinement of program student learning objectives or thirty credits of course work and, with the approval of the graduate Chair of biology, three credits of intern experience in a professional setting aimed at student acquisition of career skills targeted by the program. Both MS and MA students should take examinations, oral or written as appropriate. Upon completion of the internship, the student should have a written report by the intern advisor and should present a seminar at UB, demonstrating successful completion of the area of their internship.

Program Admissions and Special Requirements

Applicants to the M.S. and M.A. programs

must submit the following documents:

- Official transcripts of all undergraduate (and any graduate) work
- Evidence of successful completion of the baccalaureate degree, with an overall cumulative index of B as well as a B or better average in program prerequisites: Biology and cognate science courses, such as Biochemistry, Chemistry, or applied clinical lab-based science courses.
- Two letters of recommendation
- For M.A. students: If students decide to complete the internship, they will be required to submit a letter of sponsorship from a suitable internship site after enrolling in the graduate Biology program.

In addition, the candidate must have the following pre-requisites.

At least one course with a grade of C or better in each of the following areas: calculus, organic chemistry, physics, ecology, physiology, cell biology, genetics, and molecular biology. The courses must be designated as appropriate for biology majors. Students will not be admitted to the program with more than 9 credits of deficiency. Credits from courses addressing deficiency do not count toward the M.S./M.A. degree. Deficiencies must be remediated in the first 15 credits of the program either at UB or, with prior permission from the program chair, from elsewhere.

Learning Outcomes

The program will prepare graduates to:

- Search, read and interpret current biological literature
- Develop an in-depth understanding of the scientific issues of a particular area of biology
- Develop expertise in research methods associated with an area of biology
- Develop professional skills related to work in a specific area of biology or biomedical science
- Integrate techniques, skills, and understanding of scientific principles across various area sub-disciplines of biology.

The M.S. program will also develop independent scientific research skills, including the ability to:

- Formulate scientific hypotheses, design

Biology Master of Arts/Master of Science

and execute experiments

- Collect, analyze and interpret experimental data
- Deliver scientific ideas and experimental results both at scientific meetings and through preparation and publication of manuscripts

The M.A. program will also develop professional work skills, including the ability to:

- Integrate knowledge of biology and biological research to occupations in clinical settings
- Apply knowledge of biology and biological research to occupations in commercial or policy settings

These objectives serve the university's mission to offer "career-oriented undergraduate, graduate and professional degrees and programs for people seeking personal and professional growth."

Graduation Requirements

Comprehensive Examination: All students must pass an oral or written comprehensive examination as determined by their advisors, covering current theory, application and research in areas appropriate to their training and interests. In addition

- M.S. candidates must also submit and defend a research thesis, which demonstrates the student's ability to conduct independent research.
- M.A. candidates may complete a literature review, or those who choose the internship option must also submit a recommendation letter from their internship mentor and an internship report describing the work done in their internship and the professional advancement outcomes achieved. Furthermore the student should present their work in a seminar at UB.

Curriculum

PROGRAM COMMON CORE COURSES

Bio	445	Advanced Methods in Molec Biology	3
Bio	470	Research Rotation	1
Bio	490	Departmental Seminar	1
Bio	498	Internship	3
Bio	499	Master's Research ^b	6
Math	423	Probability and Statistics	3
Math	423B	Biostatistical Analysis	1

MOLECULAR BIOLOGY

Bio	404	Tissue Culture	3
Bio	407	Microbial Genetics	3
Bio	421	Advanced Cell Biology	3
Bio	479	Bioinformatics	3

BIOMEDICAL SCIENCE

Bio	418	Environmental Health	3
Bio	441	Immunology	3
Bio	446	Environmental Toxicology	3
Bio	415	Animal Nutrition	3

ECOLOGY AND EVOLUTION

Bio	402	Evolution	3
Bio	423	Advanced Ecology	3
Bio	424	Physiological Ecology	3
Bio	479	Bioinformatics	3

ELECTIVE COURSES

Bio	401	Histology	4
Bio	441	Immunology	4
Bio	444	General Toxicology	4
Bio	480	Special Topics	3
Bio	404	Tissue Culture	3
Bio	415	Animal Nutrition	3
Bio	500	Maintaining Matriculation	0

^a for M.A., ^b for M.S.

Total Semester hours _____ **33**

Counseling Master of Science Degree

Bates Hall
Telephone: (203) 576-4173
Telephone: (203) 576- 4585

Admissions Requirements

The University has a rolling admissions policy. To be fully admitted applicants must have a bachelor's degree from an accredited college or university with a minimum GPA of 3.0 but will consider students with lower GPA's for highly qualified applicants. Applicants are expected to have earned a B or better in at least 9 credits of psychology coursework (graduate or undergraduate) such as Personality Theories, Abnormal Psychology, or Clinical Psychology. They must also successfully complete the supplemental application portfolio which includes personal references, a writing assignment, and an official transcript.

PROGRAM PREREQUISITES

Bachelor's degree, or its equivalent, from an accredited university or recognized international institution

- Undergraduate cumulative grade point average of 3.0 but they will consider students with lower GPA's for highly qualified applicants.
- Nine credits in undergraduate psychology coursework with a grade of B or higher.
- Applicants need a minimum of three undergraduate credits in psychology, preferably Abnormal Psychology, Human Development and Research Methods.
- Minimum of 6-9 months of field experience working in social service agencies, mental health professions or substance use intervention sites.

REQUIRED MATERIALS

University of Bridgeport graduate application

\$50 application fee (non-refundable)

- Checks or money orders should be made payable to the University of Bridgeport
- Official transcripts from every school attended
- International transcripts must include an official course-by-course evaluation of all academic work from an accredited aca-

- demic evaluating service
- Two recommendation letters
 - Letters must be signed and come from employers, professors or professional associates
 - Clinical mental health counseling applicants must obtain at least one recommendation letter from someone who can attest to field experience

PERSONAL STATEMENT

In 250-500 words, detail your interest in the counseling program, your relevant academic and personal experience, and describe your professional plans

- Resume
- Interview

Applicants who meet the minimum requirements will be invited for a personal interview.

DEADLINES

Completed application and all supporting documents must be received by:

May 1 for priority consideration, July 1 (final deadline) for the fall semester

October 1 for priority consideration, December 1 (final deadline) for the spring semester

It is highly recommended that you meet our priority deadline as program space is limited. In addition to the general admissions requirements listed above, candidates in the Clinical Mental Health Counseling Concentration must demonstrate sustained experience in the field of Counseling. A personal interview is also required.

Applicants who hold a bachelor's degree from an accredited college or university but do not meet one or more of the above criteria may be admitted provisionally. Those without the recommended background in Psychology may be required to take additional psychology-related coursework as part of their degree program.

Programs

The Counseling Program offers a Master of Science degree in Counseling with a concentration in Clinical Mental Health Counseling. In addition to the master's degree, a Certificate of Advanced Study (CAS) is offered for those who wish to take specialized courses

beyond the masters and/or complete licensure requirements. Students who apply to one program and wish to transfer to another must apply to change programs.

Upon entry into a program, students plan an individualized plan of studies with their advisor in which graduate transfer credit of no more than six credits may be included. While students can take courses at their own pace, all of the counseling degree programs require a minimum of two years to complete. There is a set sequence of courses for each concentration and some courses have prerequisites. Courses are offered once a year, typically in the evening or on weekends. In addition, there is a seven year time limit for completion of all degree requirements.

Typically students take two-four courses each term. Many students have full or part-time employment. Although it is possible to take all course work in the late afternoon, evening, or on weekends, some additional time during the day may be required to meet course expectations. This is especially true for internship placement.

Professional Licensure

Students interested in licensure should consult the state in which they wish to practice for specific requirements. The State of Connecticut requires a 60 credit master's degree. Specific areas of coursework are also required. In addition, candidates for licensure must complete supervised clinical experiences and obtain a qualifying score on a standardized examination. Students who wish to pursue licensure should select the Clinical Mental Health Counseling concentration.

Certificate of Advanced Study

For individuals who hold a master's degree in Counseling or a closely related field but lack one or more of the requirements for licensure as a professional counselor, the Counseling Program offers a specialized program of study leading to a Certificate of Advanced Study (CAS) in Clinical Mental Health Counseling. The requirements of this program are individualized to the needs and goals of each student and consist of 30 credits.

Practicum

The practicum is designed to allow students to develop their counseling skills in a closely supervised setting. The course instructor,

Counseling Master of Science Degree

student's advisor, and site supervisor determine appropriate practicum activities. Activities could include observing/shadowing, attending staff meetings, tutoring, advising, interviewing professional staff members, studying materials and procedure manuals, and other support functions.

Internship

Following the practicum and pre-requisite courses, students will pursue an internship. The goal of the internship is to further develop and refine the skills established during practicum. You are eligible for the internship component of your program after completing the required coursework and approval from faculty. The internship is the heart of the master's degree training program in Counseling at the University of Bridgeport (UB). It provides a venue within which students receive the guidance necessary for development as an entry-level counselor. Program faculties provide didactic and experiential training, which serves as the foundation for the development of skills necessary for independent work in clinical settings. The internship operationalizes this training and, in the person of the clinical supervisor, personifies the profession with which the intern ideally identifies. Therefore, careful consideration should be given to the type of internship site that you choose and you should discuss this closely with your advisor. Successful internship training can only occur when program faculty and site supervisors form a close collaborative relationship with the mission of providing quality training and the development of the intern as a whole person. Internships are not guaranteed and approval to attend internship is dependent upon students' performance both interpersonally and academically. Internships must be completed over two semesters, typically over the course of a full academic year, starting in the fall and ending in the spring.

Learning Outcomes

Graduates in Clinical Mental Health Counseling will:

Evidence understanding of the role of a counselor; including ethical practice, counselor behaviors and professional associations

As measured by: Internship, Participation in professional associations, C570, C568

Demonstrate knowledge, awareness and skills requisite for counseling persons from different cultural contexts and of different levels of ability

As measured by: C512, C545, Internship, CPCE

Apply counseling theories, techniques and intervention to practice; in individual and group settings

As measured by: C505, C570, Internship, C512, C540

Demonstrate knowledge of the ethical use of appraisal instruments

As measured by: C582, CPCE

Demonstrate an ability to diagnose mental health status

As measured by: C515, Internship

Demonstrate an ability to review counseling research and integrate its contribution to specific areas of knowledge

As measured by: C535, CPCE

Demonstrate knowledge of, and skills in Cognitive Behavioral Therapy

As measured by: Cumulative Exam

Summary of Requirements

Masters students in the Division of Counseling are required to complete the following courses:

CONCENTRATION IN CLINICAL MENTAL HEALTH COUNSELING (CMHC)

The concentration in Clinical Mental Health Counseling is designed to prepare students for work as mental health counselors and requires advanced coursework in clinical skills, psychopathology, appraisal procedures, addiction, and psychotherapeutic techniques.

Course Number	Course Name	Credits
Coun 505	Helping Relationships	4
Coun 512	Theories of Counseling	3
Coun 515	Clinical Skills for Counselors	3
Coun 535	Research Methods	3
Coun 540	Group Process Application & Theory	4
Coun 545	Social & Cultural Foundations	3
Coun 552	Human Growth & Development	3
Coun 568	Counselor as Professional	3
Coun 570	Strategies & Techniques of Counseling	4
Coun 582	Appraisal Processes for Counselors	3
Coun 585	Trauma & Crisis Intervention	3
Coun 587	Topics in Behavioral Medicine	3

Criminal Justice and Human Security Master of Arts Degree

Carlson Hall, Room 209
Telephone: (203) 576-4869

Program Description

UB's Master of Arts in Criminal Justice and Human Security degree program is designed to help you attain expertise in the worldwide political, cultural, and socioeconomic conditions that contribute to crime and its attenuation. Our program will help you gain insight into the cultural, ethnic, religious and ideological differences often discovered at the root of criminal acts, violence, and terror. Among some of the in-depth topics covered in this program: domestic, international, and comparative criminal law; transnational crime; cybercrime, and cyberterrorism—all taught by experienced faculty from UB's School of Public and International Affairs. Human security, as it relates to modern threats such as terrorism, human trafficking, and ethnocentric violence, will also be explored. This broader understanding of human rights and its connection to history, global policy, international peace and security, and humanitarian affairs provides a strong foundation on which you will be able to draw correlations and build solutions towards a safer world.

Learning Objectives

- Demonstrate the skills necessary to excel in professional careers in federal, state, and international law enforcement agencies where intercultural communication skills, foreign language skills, and insights into other cultures are increasingly important both to address criminal activity and to take needed steps to prevent it
- Demonstrate an understanding of and appreciation of the rule of law, law enforcement's role in the securing and protection of civil and human rights, and an understanding of the social conditions and circumstances that foster or discourage criminal behavior
- Demonstrate an understanding of Human Security and its role in the realization of a just and lawful society and the impact that this understanding of security has upon the existing notions of national, regional and international security
- Demonstrate the intercultural literacy skills needed to relate to an increasingly

globalized population where norms and values may differ

- Demonstrate an understanding of the role of non-state actors in international crime and justice, in such fields as norm creation, deviance, terrorism, and crime prevention
- Demonstrate an understanding of the interpretations of religion, ideology, and culture that contribute to the proliferation and/or the deterrence of violence and crime

terial, and 15 semester-hours (or five courses) of electives. This includes completion of the following three Capstone projects: CJHS 591 Internship (or, in rare cases, alternate coursework that requires permission of the academic advisor); CJHS 598 CJHS Capstone; and CJHS 599 (a Thesis or a Project Demonstrating Competency (PDC)). The program will require two years for completion.

Curriculum

While pursuing your Master of Arts in Criminal Justice and Human Security degree, you will be required to take 21 semester hours of core courses and 15 semester hours of electives.

PROGRAM CORE REQUIREMENTS (WITH CONCENTRATIONS)

These courses are specific to the Master of Arts in Criminal Justice and Human Security degree program.

CJHS 501	Criminal Justice Research Methods
CJHS 511	Human Security and Approaches to Justice
CJHS 530	US Law and Criminal Justice
CJHS 532	Law Enforcement Management
CJHS 591	Internship
CJHS 598	CJHS Capstone
CJHS 599A	Thesis
or CJHS 599B	Project Demonstrating Competence

ELECTIVE COURSES

Select five electives that appeal to your area of interest.

CJHS 522	International Conflict and Negotiation
CJHS 535	Theories on Crimes, Norms, and Deviance (comparative across major cultural spheres & historically)
CJHS 540	International Criminal Law
CJHS 550	Comparative Criminal Procedures
CJHS 559	Cybercrime and Cyberterrorism
CJHS 560	Transnational Crime—Drugs, Human Trafficking, Arms Shipment
CJHS 578	Topics in Criminal Justice Policy

The Master of Arts in Criminal Justice and Human Security degree program requires successful completion of 36 semester-hours of required coursework broken into 21 semester-hours (or seven courses) of core ma-

Global Development and Peace Master of Arts Degree

NOTE: THIS PROGRAM IS NO LONGER ACCEPTING NEW STUDENTS OR INTERNAL TRANSFERS
Carlson Hall
Telephone: (203) 576-4966

Program Description

The Master of Arts in Global Development and Peace is designed for individuals who intend to pursue careers in international public service through intergovernmental organizations, government agencies, and non-governmental organizations. Graduates of the Master of Arts in Global Development and Peace will also be prepared for the careers in the private sector, especially to work in banks, insurance companies, corporations, and management firms that have branch offices, holdings, partnerships, and/or clients in developing countries.

This graduate degree is designed to allow future civil servants and business professionals interested in global development and human security to develop an understanding of

- Extant models of socioeconomic development
- Prerequisites for good governance in developing countries
- The impact of religion and culture on intra- and interstate relations.

Students in the program will also develop competence in:

- Quantitative and qualitative research and analysis.
- Negotiation and conflict resolution.
- Project management and related problem-solving skills

They are also expected to develop or demonstrate a Foreign Service Level 2 (limited working proficiency) of at least one world language beside English.

All courses are 3 credits.

Learning Outcomes

The Master of Arts in Global Development & Peace has the following learning outcomes:

Students will be able to explain and compare the major extant models for socioeconomic development.

Students will demonstrate that they have acquired the quantitative and qualitative research skills needed to undertake effective

planning, analysis and implementation of projects related to socioeconomic development or conflict resolution.

Students will demonstrate an understanding of the institutional prerequisites for good governance in developing countries.

Students will demonstrate an appreciation of the impact that religion and culture can have on socioeconomic development

Students will demonstrate the basic skills needed for effective communication and negotiation.

Students will demonstrate skills needed in problem solving and in project management through an overseas internship.

Students will demonstrate a working knowledge of a second language in addition to English.

Masters of Arts Core Requirements

The program is developed as a 36 credit graduate course of study that requires four semesters of study including a overseas internship. It requires the student to have completed some foundational coursework in political economy and have a working knowledge of at least one world language. Students may apply without the prerequisites, but they will need to demonstrate competency in these areas prior to completion of their degree. Undergraduate students in the College of Public and International Affairs who complete 12 semester hours of the program in addition to all the requirements for their undergraduate degree may receive a Graduate Certificate in Global Development & Peace provided they receive no grade lower than a B in the 12 graduate credits that they complete. These 12 semester hours must be in excess of the required 120 semester hours for graduation with the Bachelor's degree.

The curriculum of the Master's degree is designed so that students will develop competency in the following areas:

- Qualitative and Quantitative Research Methods and Their Applications to Development.
- International Political Economy and the Major Theories of Development.
- An Appreciation of the Role played by Religion and Culture in Development
- Conflict Analysis and Resolution

- Diplomacy and Negotiation

The degree offers four potential tracks and students should choose from one of the following:

A: CONFLICT ANALYSIS AND RESOLUTION TRACK

For those interested in conflict management

B: INTERNATIONAL POLITICAL ECONOMY AND DEVELOPMENT TRACK

For those interested in development and its challenges

C: GLOBAL MANAGEMENT TRACK

For those interested in working in the commercial domain, especially in emerging and developing economies.

D: GLOBAL MEDIA AND COMMUNICATION

For those interested in public diplomacy or in serving as a spokesperson.

Curriculum

GLDP 511 Issues in Economic Development

GLDP 522 International Conflict and Negotiation

GLDP 528 Sociopolitical Implications of the World's Religions

Or GLDP 525 Globalization

GLDP 501 Research Methods

GLDP 591 Internship (or, in rare cases, alternate coursework that requires permission of the academic advisor);

GLDP 598 Tutorial

GLDP 599 Thesis

SPECIALIZATION TRACK A CONFLICT ANALYSIS AND RESOLUTION

CHOOSE TWO:

GLDP 535x Peace Psychology

GLDP 581 Advanced Diplomacy

GLDP 524 Political and Economic Integration

CHOOSE 2 PLUS ONE COURSE IN ANOTHER TRACK B, C, OR D

GLDP 560 Sustainable Development

GMCS 543 Communication and National Development

GLDP 563 International Human Rights

GMCS 529 Advanced Intercultural Communication

SPECIALIZATION TRACK B INTERNATIONAL POLITICAL ECONOMY & DEVELOPMENT

CHOOSE TWO:

Global Development and Peace Master of Arts Degree

GLDP 523 Corruption
GLDP 540 Culture and Development or
GLDP 563 International Human Rights
Choose 2 plus one course in Track A, C, or D
GLDP 540 Culture and Development
GLDP 560 Sustainable Development
MGMT 532 Global Program and Project
GSB 539 International Issues

SPECIALIZATION TRACK C GLOBAL MEDIA AND COMMUNICATION

CHOOSE TWO:

GMCS 511 Communication Theory
GMCS 529 Advanced Intercultural Communication
GMCS 543 Communication and National Development
GMCS 555 News Media & International journalism
GMSC 562 Media Communication Law and Legal Issues

CHOOSE TWO PLUS ONE COURSE IN TRACK A, B OR D

GMCS 555 News Media & International journalism
GMSC 562 Media Communication Law and Legal Issues
GLDP 529 Advanced Intercultural Communication

SPECIALIZATION TRACK D GLOBAL MANAGEMENT

CHOOSE TWO:

GLDP 523 Corruption
GSB 537/MGMT 532 Global Program and Project Management
GSB 580/MGMT 523 Leadership, Teams & Managing Change
GLDP 528 Political and Economic Integration

CHOOSE TWO PLUS ONE COURSE IN TRACK B, C, OR D

FIN 500 International Trade and Finance
FIN 630 International Financial Management
FIN 743 Technical Analysis & Trading
GLDP 561 Sustainable Development
MGMT 779 International Issues
MGMT 632 Global Program and Project Management

Total Semester hours _____ 36

ENGLISH LANGUAGE REQUIREMENT

For applicants whose native language is not English, a minimum score of 213 (computer) or 550 (paper) on the TOEFL (Test of English as a Foreign Language) is required.

Exception to these requirements will be considered on a case-by-case basis in consultation with the Director of the University's English Language Institute and following completion of an oral and written English exam that is administered by the English Language Institute. Students with demon-

strated difficulty communicating in English may be required to take an advanced ELI course even if they have earned between 213/550 and 250/600 TOEFL scores.

MINIMUM GRADE POINT AVERAGE REQUIREMENT

Candidates for the Masters of Arts in Global Development & Peace are required to maintain a minimum semester grade point average of 3.0 to remain in good academic standing. The Master of Arts in Global Development may only be conferred upon a student who has the minimum required average of a 3.0 at the conclusion of the student's studies. To receive credit for the completion of one of the tracks, a minimum of a "B" must be received in each course within the concentration. Students failing to maintain minimum academic standards will be placed on academic probation at the end of the first semester in which they do not maintain a semester or overall GPA of at least 3.0 or earn a C- or lower grade in any class. If the student fails to raise his overall GPA above a 3.0 by the end of the semester following being placed on academic probation, fails again to earn at least a 3.0 semester GPA or again earns a C- or lower grade in any class, she or he will be separated from the GLDP program. A student separated from the program may apply for readmission to the program following a minimum of one semester of not participating in the program. If, following this, the student does not achieve the needed 3.0, he or she is definitively separated from the program.

* Note for all academic programs in the School of Public and International Affairs, a portfolio is collected to track progress in programmatic outcomes.

Global Media and Communication Studies Master of Arts Degree

NOTE: THIS PROGRAM IS NO LONGER ACCEPTING NEW STUDENTS OR INTERNAL TRANSFERS
Carlson Hall
Telephone: (203) 576-4966

Program Description

The Master of Arts in Global Media and Communication Studies is designed to prepare students to become communication specialists who can respond to the information revolution and the globalization of media. The program conveys the importance of media experts that possess intercultural sensitivity and an ability to transcend borders and interpret the communications of other cultures. The program's Global Communications Track introduces and supports its students to develop the skills needed for careers in as spokespersons, cross-cultural communications specialists for governmental, nongovernmental public diplomacy and for work with transnational corporations. Its New Media Track prepares students as webmasters and content managers for industry and for the work in the public sector.

The Master of Arts in Global Media and Communication Studies is a two-year program. It requires the completion of 36 semester hours of class work, including an internship, tutorial and thesis. Students who enter the program are expected to have completed at least one year of college foreign language study or pass a language proficiency exam. Students who have not studied a foreign language must do such study in order to graduate. Domestic students must do the internship in a country where the foreign language that they have studied is spoken and it may be done over two summers if necessary. Non-US students who speak another global language besides English may do their internship either locally or overseas.

Learning Outcomes

The curriculum of the Master of Arts in Global Media and Communication Studies is designed so that students develop and demonstrate competency in the following areas:

- Demonstrate an understanding of the roles and functions of traditional and new media
- Demonstrate an ability to function as

an effective communicator, writer, and spokesperson

- Demonstrate an understanding of the different media systems in the world and patterns of communication
- Demonstrate abilities and skills to communicate across cultures and nations
- Demonstrate an ability to use media and communication skills to address conflicts and misunderstandings
- Demonstrate an understanding of the legal and ethical issues in media communication
- Demonstrate abilities and skills in gathering, writing, and reporting news in foreign countries
- Develop abilities to create effective media content
- Demonstrate abilities to assess, use, and interpret information
- Develop basic knowledge of at least one world language other than English.

the corporate world.

Curriculum

ALL COURSES ARE 3 CREDITS

CORE CURRICULUM (REQUIRED FOR BOTH PROGRAM TRACKS):

GLDP/GMCS 501	Research Methods
GMCS 529	Advanced Intercultural Communication
GMCS 511	Communication Theories
GMCS 537	Global Communication and Mass Media
GMCS 590	Media Communication Law and Legal Issues
GMCS 591	Internship (<i>or, in rare cases, alternate coursework that requires permission of the academic advisor</i>).
GMCS 598	Tutorial
GMCS 599	Thesis or Project Demonstrating Excellence

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REQUIRED COURSES FOR TRACK OPTIONS (TAKE GMCS 543 AND TWO ADDITIONAL COURSES)

REQUIREMENTS FOR TRACK A: GLOBAL COMMUNICATION TRACK:

GMCS 555	News Media and International Journalism	3
GMCS/GLDP 543	Communication and National Development	3
GMCS 557	Political Communication and Public Diplomacy	3
GMCS 535	International Advertising and Public Relations	3
GLDP 522	International Conflict and Negotiation	3

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REQUIREMENTS FOR TRACK B: NEW MEDIA COMMUNICATION TRACK:

(Take GMCS 546 and two additional courses)	
GMCS 518	Traditional Media and New Media
GMCS 552	Advanced Web Publishing and Design II
GMCS 572	Advanced Digital Video Creation II
GMCS 546	Social Media, Business and Society
GMCS/GLDP 543	Communication and National Development

9

Free elective 3

Total Semester Hours 36

Global Media and Communication Studies Master of Arts Degree

ENGLISH LANGUAGE REQUIREMENT

For applicants whose native language is not English, a minimum score of 213 (computer) or 550 (paper) on the TOEFL (Test of English as a Foreign Language) is required. Exception to these requirements will be considered on a case-by-case basis in consultation with the Director of the University's English Language Institute and following completion of an oral and written English exam that is administered by the English Language Institute. Students with demonstrated difficulty communicating in English may be required to take an advanced ELI course even if they have earned between 213/550 and 250/600 TOEFL scores.

MINIMUM GRADE POINT AVERAGE REQUIREMENT

Candidates for the Masters of Arts in Global Media and Communication Studies are required to maintain a minimum semester grade point average of 3.0 to remain in good academic standing. The Master's degree may only be conferred upon a student who has the minimum required average of a 3.0 at the conclusion of the student's studies. To receive credit for the completion of one of the tracks, a minimum of a "B" must be received in each course within the concentration.

Students failing to maintain minimum academic standards will be placed on academic probation at the end of the first semester in which they do not maintain a semester or overall GPA of at least 3.0 or earn a C- or lower grade in any class. If the student fails to raise his overall GPA above a 3.0 by the end of the semester following being placed on academic probation, fails again to earn at least a 3.0 semester GPA or again earns a C- or lower grade in any class, she or he will be separated from the GLDP program.

A student separated from the program may apply for readmission to the program following a minimum of one semester of not participating in the program.

COLLEGE OF ENGINEERING, BUSINESS, AND EDUCATION

COLLEGE OF ENGINEERING, BUSINESS, AND EDUCATION

School of Engineering Programs

Computer Engineering Bachelor of Science Degree

Engineering Technology Building
Telephone: (203) 576-4145
Fax: (203) 576-4765

Curriculum and Program Requirements

The ever increasing use of the computer in today's world offers expanding opportunities in this field of specialization. This program provides a bridge between the disciplines of electrical engineering and computer science. Graduates can enter such fields as chip design, software engineering, robotics, computer networks, internet of things, network security and a variety of computer-controlled applications. This requires the development of the engineering approach through the understanding of engineering mathematics, digital and analog electronics and control, as well as computer languages, computing theory and computer architecture. Design and problem solving form the heart of the discipline and a variety of computer aided design (CAD) tools are utilized to facilitate learning and implementation.

The graduate from this program will obtain the basic education in the first three years. The final year is utilized to explore specific areas of interest. One can choose a software oriented program including such areas as artificial intelligence, deep learning, computer vision, cyber security, cloud computing and web application design, or a hardware oriented program pointing toward computer or integrated circuit design, robotics, internet of things and networking.

The engineering approach and knowledge of hardware and software design are the attributes that make it unique. This program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. A total of 121 semester hours are required for graduation.

TRANSFER POLICY

All undergraduate ABET accredited programs students must complete all Engineering ma-

jer coursework, Engineering and Technical Electives, and STEM coursework at the 300+ level; and Junior/Senior level (as per the program requirements) at the University of Bridgeport.

Students are able to transfer classes, if approved by the chair and dean, outside the University at lower (100-200) levels or Freshman/Sophomore level (as per the program requirements) only at the time of transferring into the program; and based on UB's transfer policy as it pertains to evaluation of course descriptions, syllabi and examples of work done in transferred-in classes.

COURSE SUBSTITUTION POLICY

All undergraduate ABET accredited programs students must complete all Engineering major coursework, Engineering and Technical Electives, and STEM coursework at the 300+ level; and Junior/Senior level (as per the program requirements) at the University of Bridgeport; and as per defined in the program requirements. There will be NO course substitutions allowed for these classes as defined in the program requirements.

Substitution courses may be allowed at lower (100-200) levels or Freshman/Sophomore level (as per the program requirements) with the approval of the Department Chair and School Dean.

Program Objectives

Our Computer Engineering Graduates will:

1. Develop effective and innovative solutions to challenging engineering problems.
2. Become leaders in emerging technologies, developing future state-of-the-art designs and products based on new fundamental theories.
3. Lead teams of engineers and collaborate with other professionals in multidisciplinary environments.
4. Maintain an awareness of the global and societal environment, and engineer solutions to problems as they arise.
5. Engage in life-long learning by pursuing advanced degrees and professional development leading to career advancement.

Learning Outcomes

Our Computer Engineering Students will:

1. Demonstrate comprehension of math, science, and basic computer engineering topics.
2. Comprehend the design of computer architectures; and integrated systems having major hardware and software components.
3. Exhibit problem solving skills.
4. Have the ability to use techniques, skills, and modern engineering tools necessary for engineering practice.
5. Work effectively on teams.
6. Demonstrate the ability to identify and apply concepts of engineering economics and project planning.
7. Demonstrate knowledge of contemporary global and societal issues and their relationship to professional ethics and engineering solutions.
8. Demonstrate the ability to plan and conduct laboratory experiments and interpret and report the results.
9. Exercise strong oral and written communication skills including those needed for technical writing.
10. Have an awareness of the need for and demonstrate the ability to keep learning throughout life along with an appreciation of diversity in the world and in intellectual areas.

Summary of Requirements

ENGINEERING CORE REQUIREMENTS

CHEM 103/103L	General Chemistry I with Lab	4
CPEG 210	Digital System Design I	3
CPEG 286	Microprocessor System Design	3
CPSC 101	Introduction to Computing I	3
ELEG 233/235	Electrical Engineering I with Lab	4
FYS 101	First Year Seminar (Engr LC)	3*
ENGR 290	Economics and Management of Engineering Project	3
MATH 215	Calculus III	4
MATH 281	Differential Equations	3
MATH 323	Probability and Statistics	3
MEEG 223	Materials Science for Engineers	3

Computer Engineering Bachelor of Science Degree

PROGRAM REQUIREMENTS	33+3*	EIGHTH SEMESTER	
CPEG 312 Computer Organization	3	CHEM 103/103L General Chemistry I with Lab	4
CPEG 315 Digital Design II with Lab	4	PHYS 207 Principles of Physics I	4
CPEG 387 Embedded System Design	3	MATH 112 Calculus II	4
CPEG 447/ELEG/CPEG 448 Logic Synthesis/VLSI Design	3	CPSC 102 Introduction to Computing II (Data Structures & Algorithms)	3
CPEG 349 A, B CPEG Senior Design Project	4*	THIRD SEMESTER	
CPEG 489 Software Engineering	3	MATH 215 Calculus III	4
CPSC 102 Introduction to Computing II (Data Structures and Algorithms)	3	PHYS 208 Principles of Physics II	4
CPSC 227 Discrete Structures	3	ELEG 233/235 Electrical Engineering I with Lab	4
ELEG 234/236 Network Analysis II with Lab	3	CPEG 210 Digital System Design I	3
ELEG 348 Electronics I	3	ENGL 204 Technical Writing for CPEG	1
ELEG 317 Introduction to Control Systems	3	FOURTH SEMESTER	
ELEG 333/CPEG 460 Signals and Systems/Introduction to Robotics	3	MATH 281 Differential Equations	3
ENGL 204 Technical Writing for CPEG	1	MEEG 223 Material Science for Engineers	3
MATH 214/314 Linear Algebra/Numerical Analysis	3	ELEG 234/236 Network Analysis II with Lab	3
Technical Elective	6	CPEG 286 Microprocessor System Design	3
Free Elective	3	HUM Humanities Core	3
	47+4*	FIFTH SEMESTER	
	41	MATH 323 Probability and Statistics	3
* Credits counted under General Education Requirements		ELEG 317 Introduction to Controls Systems	3
GENERAL EDUCATION REQUIREMENTS		ELEG 348 Electronics I	3
ENGL 101 Academic Writing	3	CPEG 315 Digital Design II with Lab	4
MATH 110 Calculus I	4	FA Fine Arts Core	3
MATH 112 Calculus II	4	SIXTH SEMESTER	
PHYS 207/208 Principles of Physics I, II	8	MATH 214/314 Linear Algebra/Numerical Analysis	3
HUM Humanities Core	6	CPEG 312 Computer Organization	3
SOSC Social Sciences Core	6	CPEG 387 Embedded System Design	3
FA Fine Arts Core	3	ENGR 290 Economics and Management of Engineering Projects	3
FYS** First Year Seminar (Engr LC)	3	SOSC Social Science Core	3
CAPS 390** CPEG 349 Senior Design Project	4	SEVENTH SEMESTER	
	41	CPEG 349A CPEG Senior Design Project	1
Total Semester Hours	121	ELEG 333/CPEG 460 Signals and Systems/Introduction to Robotics	3
** FYS & CAPS General Education Requirements are met by Engineering Core and Program Requirements.		CPEG 489 Software Engineering	3
		CPEG 447/ELEG/CPEG 448 Logic Synthesis/VLSI Design	3
		SOSC Social Science Core	3
		Free Elective	3

Suggested Program

FIRST SEMESTER		
ENGL 101 Academic Writing	3	
MATH 110 Calculus I	4	
CPSC 101 Introduction to Computing I	3	
FYS 101 First Year Seminar (Engr LC)	3	
CPSC 227 Discrete Structures	3	
SECOND SEMESTER		

*Technical Elective - This elective must be chosen from any senior level/graduate level course in CPEG, CPSC or ELEG like CPEG 371, CPEG 415, CPEG 472, CPEG 510, CPEG 561, CPEG 577, CPEG 585, CPEG 586, CPSC 440, CPSC 501, ELEG 364, ELEG 446, ELEG 451, ELEG 458

Computer Engineering Technology Bachelor of Science Degree

Engineering Technology Building
Telephone: (203) 576-4578
Fax: (203) 576-4765

Curriculum and Program Requirements

The UB Bachelor of Science in Computer Engineering Technology, BS degree program is designed to address the need for graduates with skills in computer programming, computer hardware and computer networks. The Computer Engineering Technology program provides students with the opportunity to focus on applications and implementations more than theory and conceptual design. This program is open for new enrollment and for transfer students from community colleges.

The Computer Engineering Technology program at the University of Bridgeport will prepare graduates with the skills necessary to enter careers in the design, application, installation, programming, networking, and operation of computer systems. Graduate students are well prepared for development and implementation of computer systems and networks.

Engineering programs often focus on theory and conceptual design, while engineering technology programs usually focus on application and implementation. Engineering programs typically require additional, higher-level mathematics, including multiple semesters of calculus and calculus-based theoretical science courses, while engineering technology programs typically focus on algebra, trigonometry, applied calculus, and other courses that are more practical than theoretical in nature.

TRANSFER POLICY

All undergraduate ABET accredited programs students must complete all Engineering major coursework, Engineering and Technical Electives, and STEM coursework at the 300+ level; and Junior/Senior level (as per the program requirements) at the University of Bridgeport.

Students are able to transfer classes, if approved by the chair and dean, outside the University at lower (100-200) levels or Freshman/Sophomore level (as per the program requirements) only at the time of transferring into the program; and based on UB's trans-

fer policy as pertains to evaluation of course descriptions, syllabi and examples of work done in transferred-in classes.

COURSE SUBSTITUTION POLICY

All undergraduate ABET accredited programs students must complete all Engineering major coursework, Engineering and Technical Electives, and STEM coursework at the 300+ level; and Junior/Senior level (as per the program requirements) at the University of Bridgeport; and as per defined in the program requirements. There will be NO course substitutions allowed for these classes as defined in the program requirements.

Substitution courses may be allowed at lower (100-200) levels or Freshman/Sophomore level (as per the program requirements) with the approval of the Department Chair and School Dean.

Program Objectives

Our Computer Engineering Technology Graduates will:

1. Be proficient in defining and solving engineering problems.
2. Achieve expertise at developing engineering systems.
3. Be effective communicators and team players.
4. Appreciate diversity of opinion, understand ethical issues and demonstrate a commitment towards profession.
5. Be prepared for lifelong careers and professional growth.

Learning Outcomes

Graduates of the Bachelor of Science in Computer Engineering Technology degree program are expected to be able to demonstrate:

1. An ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities.
2. An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies.
3. An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply ex-

- perimental results to improve processes.
4. An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives.
 5. An ability to function effectively as a member or leader on a technical team.
 6. An ability to identify, analyze, and solve broadly-defined engineering technology problems.
 7. An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.
 8. An understanding of the need for and an ability to engage in self-directed continuing professional development.
 9. An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity.

Summary of Requirements

ENGINEERING CORE REQUIREMENTS

PROGRAM REQUIREMENTS

CPSC 101	Introduction to Computing I	3
CPSC 102	Introduction to Computing II	3
CPEG 286	Introduction to Microprocessor	3
CPEG 210	Digital Design I	3
CPEG 315	Digital Systems Design II with Lab	4
CPEG 312	Computer Organization	3
CPEG 387	Embedded System Design	3
ELEG 233	Network Analysis I	3
ELEG 235	Network Analysis I with Lab	1
ELEG 234	Network Analysis II for Engineering Technology (No Laplace & Fourier)	
	Transformers (NEW)	2
ELEG 236	Network Analysis II with Lab-with Applications (NEW)	1
	Free Electives	15
CPET 349A	Senior Design Project I	1*
CPET 349B	Senior Design Project II	3*

PROGRAM REQUIREMENTS (MISC.)

FYS 101	First Year Seminar (Engr LC)	3*
ENGR 290	Economics & Management of Engineering Projects	3
CPSC 329	Fundamental of Algorithms	3

Computer Engineering Technology Bachelor of Science Degree

DIRECTED ELECTIVES (SELECT 21 CREDITS)

CPEG 371	Data and Computer Communication	3
CPEG 472	Computer Communication II: Networks	3
CPEG 482	Network Administration	3
CPEG 461	Network Security	3
CPEG 481	Mobile Communications	3
CPSC 400	Object Oriented Programming w/C++	3
CPSC 329	Fundamental of Algorithms	3
CPSC 350	Database Design	3
CPSC 442	Python Programming	3
TCMG 568	Introduction to SQL and R	3
CPSC 389	Software Engineering	3
CPEG 308	Operating Systems	3
CPEG 377	Internet of Things	3

68+7*

* Credits counted under General Education Requirements.

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
ENGL 204	Technical Writing	1
SOSC	Social Science Core	6
HUM	Humanities Core	6
FA	Fine Arts Core	3
CHEM 113	Introduction to Chemistry, with Lab	4
PHYS 201	General Physics I, with Lab	4
PHYS 202	General Physics II, with Lab	4
MATH 106	College Algebra	3
MATH 109	Precalculus Math	4
MATH 110	Calculus and Analytical Geometry I	4
MATH 203	Elementary Statistics	3
FYS**	First Year Seminar (Engr LC)	3
CAPS 390**	CPET 349 Senior Design Project	4

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** FYS & CAPS General Education Requirements are met by Engineering Program Requirements.

Total Semester Hours 120

Suggested Program

FIRST SEMESTER

ENGL 101	Academic Writing	3
MATH 106	College Algebra	3
CPSC 101	Introduction to Computing	3
FYS 101	First Year Seminar (Engr LC)	3

SECOND SEMESTER

PHYS 201	General Physics I, with Lab	4
CPSC 102	Introduction to Computing II	3
ENGL 204	Technical Writing	1
	Free Elective	3
	Free Elective	3

THIRD SEMESTER

MATH 109	Precalculus Math	4
PHYS 202	General Physics II, with Lab	4
SOSC	Social Science Core	3
HUM	Humanities Core	3
	Free Elective	3

FOURTH SEMESTER

MATH 110	Calculus & Analytical Geometry I	4
HUM	Humanities HUM	3
SOSC	Social Science Core	3
FA	Fine Arts Core	3
	Free Elective	3

FIFTH SEMESTER

ELEC 233	Network Analysis I	3
ELEG 235	Network Analysis I with Lab	1
ENGR 290	Economics & Management of Engineer Projects	3
CPEG 210	Digital Design I	3
CPEG 286	Introduction to Microprocessor	3
CHEM 113	Introduction to Chemistry, with Lab	4

SIXTH SEMESTER

ELEG 234	Network Analysis II for Engineering Technology (No Laplace & Fourier	2
ELEG 236	Network Analysis II, with Lab, with Applications	1
CPEG 315	Digital Design II with Lab	3
CPEG 387	Embedded System Design	3
MATH 203	Elementary Statistics	3

SEVENTH SEMESTER

CPET 349A	Senior Design Project I	1
CPEG 312	Computer Organization	3
	Technical Elective	3

EIGHTH SEMESTER

CPET 349B	Senior Design Project II	3
	Technical Elective	3
	Technical Elective	3
	Technical Elective	3

*Technical Elective – This elective must be chosen from any senior level/graduate level course in CPEG /CPSC/ELEG like CPEG 371, CPEG 410, CPEG 415, CPEG 460, CPEG 472, CPEG 473, CPEG 540, CPSC 400, CPSC 440, ELEG 451, ELEG 458

Computer Science Bachelor of Science Degree

Engineering Technology Building
Telephone: (203) 576-4145
Fax: (203) 576-4765

Curriculum and Program Requirements

Today, computing is an enormously vibrant field. From its inception just half a century ago, computing has become the defining technology of our age. Computers are integral to modern culture and are the primary engine behind much of the world's economic growth. The field, moreover, continues to evolve at an astonishing pace. New technologies are introduced continually, and existing ones become obsolete in the space of a few years. The rapid evolution of the discipline has a profound effect on computing education, affecting both content and pedagogy.

Computer science core courses provide basic coverage of algorithms, data structures, software design, concepts of programming languages, and computer organization and architecture. Theoretical foundations, problem analysis, and solution design are stressed within the program's core materials. Students are exposed to a variety of programming languages and systems and become proficient in more than one higher-level language. A total of 122 semester hours is required for graduation.

Program Objectives

Our Computer Science Students will:

1. Be proficient in defining and solving problems appropriate to computer science.
2. Achieve expertise at developing software systems.
3. Be effective communicators and team players.
4. Appreciate diversity of opinion, understand ethical issues and demonstrate a commitment towards profession. Be prepared for lifelong careers and professional growth.

Learning Outcomes

Our Computer Science Students will:

1. Demonstrate comprehension of math, science, and basic computer science

topics.

2. Have the ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems.
3. Exhibit problem solving skills.
4. Have the ability to use techniques, skills, and modern software tools necessary for professional practice.
5. Work effectively in teams.
6. Demonstrate the ability to identify and apply concepts of engineering economics and project planning.
7. Demonstrate knowledge of contemporary global and societal issues and their relationship to professional ethics and engineering solutions.
8. Demonstrate the ability to plan and conduct laboratory experiments and interpret and report the results.
9. Exercise strong oral and written communication skills including those needed for technical writing.
10. Have an awareness of the need for and demonstrate the ability to keep learning throughout life along with an appreciation of diversity in the world and in intellectual areas.

31+7**

** FYS & CAPS General Education Requirements are met by Engineering Core and Program Requirements.

CORE REQUIREMENTS

FYS 101	First Year Seminar (Engr LC)	3*
CPSC 101	Introduction to Computing I	3
CPSC 102/102a	Introduction to Computer II (Data Structures)	3
CPSC 201	Advanced Data & File Structures	3
CPSC 203	2nd Programming Language	3
CPSC 227	Discrete Structures	3
CPEG 210	Digital System Design I	3
CPEG 286	Microprocessor System Design	3
ENGR 290	Economics & Management of Computing Projects	3
CPSC 301	Programming Languages	3
CPSC 329	Fundamentals of Algorithms	3
CPEG 312	Computer Organization	3
CPEG 308	Operating Systems	3
CPSC 349A,B	Senior Design Project	4*
CPSC 350	Database Design	3
CPEG 371	Data and Computer Communications	3
CPSC 389	Software Engineering	3
	CPSC Elective (3)	9
	Technical Elective (3)	9
	Free Elective	3
		66+7*

* Credits counted under General Education Requirements.

Total Semester Hours **122**

Suggested Program

FIRST SEMESTER

ENGL 101	Academic Writing	3
MATH 110	Calculus I	4
PHYS 207	Principles of Physics I	4
CPSC 101	Introduction to Computing I	3

SECOND SEMESTER

PHYS 208	Principles of Physics II	4
MATH 112	Calculus II	4
FYS 101	First Year Seminar for Engineers	3
CPSC 102	Introduction to Computing II (Data Structures)	3

THIRD SEMESTER

CPSC 227	Discrete Structures	3
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Computer Science Bachelor of Science Degree

PHYS/CHEM/BIOL Electives		4
MATH 215	Calculus III	4
HUM	Humanities Core	3
CPSC 201	Advanced Data & File Structures	3

FOURTH SEMESTER

CPEG 210	Digital System Design I	3
CPSC 329	2nd Language	3
ENGL 204	Technical Writing For Computer Science	1
HUM	Humanities Elective	3
MATH 214/314	Math Elective	3
FA	Fine Arts Core	3

FIFTH SEMESTER

ENGR 290	Economics & Management of Computing Projects	3
SOSC	Social Science Core	3
CPSC 301	Programming Languages	3
CPEG 286	Microprocessor System Design	3
MATH 323	Probability and Statistics	3

SIXTH SEMESTER

CPEG 308	Operating Systems	3
SOSC	Social Science Core	3
	CPSC Elective I	3
CPEG 312	Computer Organization	3
	Technical Elective I	3

SEVENTH SEMESTER

CPSC 389	Software Engineering	3
CPSC 349 A	Senior Design Project	1
CPSC 350	Database Design	3
CPEG 371	Data and Computer Communications	3
	CPSC Elective II	3
	Technical Elective II	3

EIGHTH SEMESTER

CPSC 349B	CPSC Elective III	3
	Senior Design Project	3
	Technical Elective III	3
	Free Elective	3
CPSC 203	2nd Programming Language	3

*CPSC Elective - This elective must be chosen from any senior level / graduate level course in CPEG/CPSC.

*Technical Elective - This elective must be chosen from any senior level/graduate level course in CPEG/CPSC/ELEG/Math.

Total Semester Hours

122

Electrical Engineering Bachelor of Science Degree

Engineering Technology Building
Telephone: (203) 576-4117
Fax: (203) 576-4117

Curriculum and Program Requirements

Electrical Engineering is the basis of Computer Engineering, Computer Science, and Biomedical Engineering. We tend to be excited by the breakthroughs in smart phones, i-pads/minicomputer, improved medical machinery, GPS, and a host of other gadgets that make our modern life more exciting and more comfortable. Electrical Engineering is the field that gives us the applied science to build all of these gadgets. It is also the field from which the knowledge will come for the creation of new gadgets and for the improvement of present-day machine.

Since it is a universal degree, the BSEE graduate is flexible – the graduate can bend their talents to satisfy the needs of an ever-changing needs technology. This promotes job security for the graduate, and it feeds the appetite of an advancing society.

The graduate of this program will obtain the basic education in the first three years. The last year is utilized to explore specific areas of interest. Our graduates will have expertise in at least one sub-field of Electrical Engineering such as electricity, machines/controllers, energy/power, signals/communications, materials, and electronic device analysis.

Program Objectives

Graduates of the University of Bridgeport's Electrical Engineering program will be able to:

1. Demonstrate peer-recognized expertise and problem solving skills providing solutions to the problems in industry, academia as well as other disciplines in the field they choose to pursue. [Problem Solving]
2. Demonstrate the capacity to embrace new opportunities and adapt to changes in emerging technologies, developing future state-of-the art designs and products. [Engineering System Design]
3. Demonstrate leadership skills and facil-

tate the achievement of others while collaborating with professionals in a multidisciplinary environment. [Communication]

4. Demonstrate their creative and critical reasoning skills while solving technical problems, ethically and responsibly, in service to society. [Contemporary issues]
5. Demonstrate life-long learning and adaptation to a continuously changing field through graduate work, professional development, and self-study. [LLL/Work/Grad School]

Transfer Policy

All undergraduate ABET accredited programs students must complete all Engineering major coursework, Engineering and Technical Electives, and STEM coursework at the 300+ level; and Junior/Senior level (as per the program requirements) at the University of Bridgeport.

Students are able to transfer classes, if approved by the chair and dean, outside the University at lower (100-200) levels or Freshman/Sophomore level (as per the program requirements) only at the time of transferring into the program; and based on UB's transfer policy as it pertains to evaluation of course descriptions, syllabi and examples of work done in transferred-in classes.

Course Substitution Policy

All undergraduate ABET accredited programs students must complete all Engineering major coursework, Engineering and Technical Electives, and STEM coursework at the 300+ level; and Junior/Senior level (as per the program requirements) at the University of Bridgeport; and as per defined in the program requirements. There will be NO course substitutions allowed for these classes as defined in the program requirements.

Substitution courses may be allowed at lower (100-200) levels or Freshman/ Sophomore level (as per the program requirements) with the approval of the Department Chair and School Dean.

Learning Outcomes

Graduates of the University of Bridgeport's Electrical Engineering program will be able to:

1. Demonstrate knowledge and the ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. [Fundamentals/ Problem Solving]
2. Demonstrate knowledge of core electrical engineering topics and an ability to apply engineering principles to produce solutions that meet specified needs within realistic constraints such as public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors. [Design/Technical Skills]
3. Exhibit an ability to convey technical material through oral presentation and formal written reports/papers to a range of audience. [Communication]
4. Demonstrate knowledge of contemporary global and societal issues and their relationship to professional ethics, and ability to make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts. [Ethics/Profession/Engr Economics]
5. Exhibit an ability to function in a multidisciplinary team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. Communication. [Teamwork]
6. Have an ability to use techniques, skills and modern tools to design, develop, and conduct scientific and engineering experiments and to analyze and interpret data, and demonstrated ability to draw conclusions. [Experiment/Results]
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies. [Diversity/LLL]

ENGINEERING CORE REQUIREMENTS

CHEM 103/103L	General Chemistry I with Lab	4
ELEG 210	Digital System Design I	3
CPEG 286	Microprocessor System Design	3
CPSA 101	Introduction to Computing I	3
FYS 101	First Year Seminar (Engr LC)	3*
ENGR 290	Economics and Management of Engineering Project	3
MATH 215	Calculus III	4
MATH 281	Differential Equations	3
Total		23+3*

Electrical Engineering Bachelor of Science Degree

PROGRAM REQUIREMENTS

ELEG 209	Engineering Mathematics	3
ELEG 337/344	Analog Electronics Lab	3
CPEG 315	Digital Systems Design II with Lab	4
ELEG 233/235	Network Analysis I with Lab	4
ELEG 234/236	Network Analysis II with Lab	3
ELEG 342	Modern Communications	3
ELEG 348	Electronics I	3
ELEG 315/316/350	Communications	3
ELEG 317	Controls	3
ELEG 333	Signals and Systems	3
ELEG 364	Programmable Logic Control	3
MATH 214	Linear Algebra	3
MATH 323	Probability and Statistics	3
ELEG 349 A, B	Senior Design Project	4*
	Technical Elective	6
ELEG (300+level)	Electives	12
	Total	59+4*

* Credits counted under General Education Requirements.

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH 110	Calculus I	4
MATH 112	Calculus II	4
PHYS 207/208	Principles of Physics I, II	8
HUM	Humanities Core	6
SOSC	Social Sciences Core	6
FA	Fine Arts Core	3
FYS**	First Year Seminar (Engr LC)	3
CAPS 390**	ELEG 349 Senior Design Project	4
	Total	34+7**

Total Semester Hours **123**

** FYS & CAPS General Education Requirements are met by Engineering Core and Program Requirements.

THIRD SEMESTER

PHYS 208	Principles of Physics II	4
ELEG 233	Network Analysis I	3
ELEG 235	Network Analysis I Lab	1
MATH 214	Linear Algebra	3
MATH 215	Calculus III	4
ELEG 209	Engineering Analysis	3
	TOTAL	18

SEVENTH SEMESTER

ELEG 317	Controls	3
ELEG 349A	Senior Design Project	2
TECH (300+level)	Electives	6
HUM	Humanities Elective	3
		TOTAL 14

FOURTH SEMESTER

ELEG 234	Network Analysis II	2
ELEG 236	Network Analysis II Lab	1
MATH 281	Differential Equations	3
FA	Fine Arts Core	3
SOSC	Social Science Core	3
ELEG 210	Digital Design I	3
	TOTAL	15

EIGTH SEMESTER

ELEG 349B	Senior Design Project	2
ELEG (300+level)	Electives	12
		TOTAL 14

FIFTH SEMESTER

ENGR 290	Economics and Management of Engineering Projects	3
ELEG 333	Signals and Systems	3
MATH 323	Probability and Statistics	3
ELEG 348	Electronics	3
ELEG 286	Microprocessors	3
		TOTAL 15

SIXTH SEMESTER

ELEG 337	Analog Electronics Lab	3
ELEG 364	Programmable Logic control	3
ELEG	Communications course (EE 315, EE 316/416, EE 350/450)	3
ELEG 342	Modern Communications	3
CPEG 315	Digital Design II with Lab	4
	TOTAL	16

Suggested Program

FIRST SEMESTER

CPSC 101	Introduction to Computing I	3
FYS 101	First Year Seminar (Engr LC)	3
ENGL 101	Academic Writing	3
MATH 110	Calculus	4
HUM	Humanities Core	3
	TOTAL	16

SECOND SEMESTER

PHYS 207	Principles of Physics I	4
MATH 112	Calculus II	4
CHEM 103	General Chemistry with Lab	4
SOSC	Social Science Core	3
		TOTAL 15

General Studies Bachelor of Science Degree

Tech Building
Telephone: (203) 576-4703

Program Description

The Bachelor of Science degree in General Studies is for the student who wishes great flexibility in pursuing college work as well as for the student with well defined goals. The candidate for the B.S. Program will "custom-make" his or her course of study, which may include interdisciplinary work that does not fit well into conventional degree programs. Planning and revision of the programs will be done with a faculty advisor. Many graduates holding this degree have been accepted for advanced work by other institutions. However, since graduate school admissions policies vary greatly depending upon the program and institution, students contemplating graduate study should inform themselves of such requirements.

Learning Outcomes

By completing the program in General Studies, students will: 1) be able to communicate effectively in writing so that one may advance professionally and apply to graduate programs; 2) be able to comprehend, analyze, and interpret texts in a variety of disciplines; 3) be able to present orally one's own thoughts and plans; 4) be able to recognize a problem and devise a plan of action to solve it; 5) be able to show mastery of several disciplines within an academic area of concentration; and 6) demonstrate an ethical mindset and exercise professional responsibility in a global context.

Degree Requirements

1. A minimum of 120 hours with minimum cumulative quality point ratio of 2.00.
2. The student must have an area of concentration with a minimum of 30 semester hours (no maximum), in one of the following areas: Business Studies; Humanities; Natural Science/Mathematics; Science, Engineering, or Computer Related Fields; and Social Sciences. Students may also elect a second area of concentration. A grade of "C" or above is required in all courses used to fulfill this requirement. No more than four 100 level courses can

- be counted in an area of concentration.
3. At least half of the semester hours to be counted in the area of concentration must be completed at the University of Bridgeport.
 4. Students may not take core courses or courses counting in an area of concentration or a minor on a pass/fail basis. The University policy on pass/fail courses limits this option to a maximum of six courses (two courses per semester) during a student's academic career, for free electives only.
 5. General Studies majors may include one or more minors in their programs. Courses used to fulfill requirements for a minor may not be counted in an area of concentration.

Note: An online (or hybrid) program is available for this major, and follows the same requirements.

GENERAL STUDIES, BACHELOR OF SCIENCE DEGREE

Summary of Requirements

PROGRAM REQUIREMENT

Approved Area of Concentration for the B.S. within Divisions. A minimum of 30 semester hours is required in one of the following categories (see item 2 under degree requirements):

SCIENCE, ENGINEERING, OR COMPUTER RELATED FIELDS

All Computer Engineering
All Computer Sciences
All Chemistry
All Electrical Engineering
All Management Engineering
All Mathematics (except Math 200)
All Mechanical Engineering
All Physics

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH Core or	Demonstrated Math Competency	3
FYS 101	First Year Seminar	3
FA	Fine Arts Core	3
HUM	Humanities Core	6
SCI	Natural Sciences Core	6
SOSC	Social Sciences Core	6
CAPS C390	Capstone Seminar	3
	Liberal Arts Requirements	9
		42
Total Semester Hours		120

Mechanical Engineering Bachelor of Science Degree

Engineering Technology Building
Telephone: (203) 576-4575
Fax: (203) 576-4765

Curriculum and Program Requirements

Mechanical engineers apply the principles of motion, force, energy, and materials for the design, development, analysis, manufacturing, testing and maintenance of mechanical systems. Mechanical engineers are suited for employment in a wide range of industries, including aerospace, automotive, biomedical, chemical, electronics, robotics, power-generation, sports, and telecommunication.

The mechanical engineering program combines in depth studies with lab and project experience to help students acquire knowledge and skills needed for successful careers or graduate studies. Students develop competence or acquire knowledge in a many areas, including engineering fundamentals, computer aided engineering tools, communication skills, design of individual components and multicomponent systems, manufacturing processes, mechanical systems, professional ethics, laboratory exploration, and more.

The graduate of this program will obtain a foundation in mathematics and science for the mechanical engineering courses offered in the third and fourth years. In their senior year, students have the opportunity to broaden and deepen their technical background through three advanced elective courses and design projects in applied areas such as aerospace engineering, mechanical design, manufacturing and materials processing, thermal and fluid engineering, mechatronics and automation, and biomedical engineering. Engineering design experience using CAD/CAM systems are integrated throughout the curriculum.

A total of 122 semester hours are required for graduation.

Program Objectives

Our Mechanical Engineering Graduates will:

1. Advance professionally with increasing leadership and responsibility in mechanical engineering or other fields.

2. Engage in life-long learning for adaptation to a continuously changing field through graduate work, professional development, and self-study.

3. an ability to communicate effectively with a range of audiences;
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

ENGINEERING CORE REQUIREMENTS

CHEM 103/103L	General Chemistry I with Lab	4
CPSC 101	Introduction to Computing I	3
ELEG 233/235	Network Analysis I with Lab	4
FYS 101	First Year Seminar (Engr LC)	3*
ENGR 290	Economics. and Management of Engineering Project	3
MATH 215	Calculus III	4
MATH 281	Differential Equations	3
MATH 323	Probability and Statistics	3
		Total 24+3*

PROGRAM REQUIREMENTS

MEEG 112	Engineering Graphics and CAD	3
MEEG 203	Thermodynamics	3
MEEG 223	Materials Science for Engineers	3
MEEG 250	Engineering Mechanics: Statics	3
MEEG 252	Engineering Mechanics: Dynamics	3
MEEG 303	Applied Thermodynamics	3
MEEG 305	System Dynamics and Control	3
MEEG 310	Mechanics of Materials	3
MEEG 307	Fluid Mechanics	3
MEEG 350	Machine Design	3
MEEG 363	Heat Transfer	3
MEEG 380	Mechanical Measurement and Data Analysis	3
MEEG 381	Mechanical Engineering Systems Lab	3
MEEG 361/362	Senior Design Project I/II	6*
ENGL 204	Technical Writing	1
	Mechanical Design Elective	3

Mechanical Engineering Bachelor of Science Degree

Thermo Design Elective	3
Technical Elective	9
Total	<u>55+6*</u>

* Credits counted under General Education Requirements.

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH 110	Calculus I	4
MATH 112	Calculus II	4
PHYS 207/208	Principles of Physics I, II	8
HUM	Humanities Core	6
SOSC	Social Sciences Core	6
FA	Fine Arts Core	3
FYS**	First Year Seminar (Engr LC)	3
CAPS390**	MEEG 361/362 Senior Design Project	6

** FYS & CAPS General Education Requirements are met by Engineering Core and Program Requirements.

Total Semester Hours	<u>122</u>
Total	<u>34+9**</u>

SIXTH SEMESTER

MEEG 363	Heat Transfer	3
MEEG 380	Mechanical Measurement and Data Analysis	3
ENGR 290	Economics and Management of Engineering Projects	3
MEEG 350	Machine Design	3
ENGL 204	Technical Writing	1
SOSC	Social Science Core	3

SEVENTH SEMESTER

MEEG 361	Senior Design Project I	3
MEEG 381	Mechanical Engineering Systems Lab	3
	Mechanical Design Elective	3
	Technical Elective	3
SOSC	Social Science Core	3

EIGHTH SEMESTER

MEEG 362	Senior Design Project II	3
	Thermal Design Elective	3
	Technical Electives	6
FA	Fine Arts Core	3

Total Semester Hours	<u>122</u>
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Suggested Program

FIRST SEMESTER

ENG 101	Academic Writing	3
CPSC 101	Introduction to Computing I	3
FYS 101	First Year Seminar (Engr LC)	3
MATH 110	Calculus I	4
HUM	Humanities Core	3

SECOND SEMESTER

MEEG 112	Engineering Graphics and CAD	3
MATH 112	Calculus II	4
PHYS 207	Principles of Physics I, with Lab	4
CHEM 103/103L	General Chemistry I, with Lab	4

THIRD SEMESTER

MEEG 250	Engineering Mechanics: Statics	3
ELEG 233/235	Network Analysis I with Lab	4
MEEG 215	Calculus III	4
PHYS 208	Principles of Physics II, with Lab	4

FOURTH SEMESTER

MEEG 252	Engineering Mechanics: Dynamics	3
MEEG 203	Thermodynamics	3
MEEG 223	Material Science for Engineers	3
MATH 281	Differential Equations	3
HUM	Humanities Core	3

FIFTH SEMESTER

MEEG 310	Mechanics of Materials	3
MEEG 303	Applied Thermodynamics	3
MEEG 307	Fluid Mechanics	3
MEEG 305	Systems Dynamics and Control	3
MATH 323	Probability and Statistics	3

Artificial Intelligence Master of Science Degree

Engineering Technology Building
Telephone: (203) 576-4145
Fax: (203) 576-4765

The M.S. program in Artificial Intelligence (AI) addresses the increasing role of AI in nearly all aspects of human life including health care, medical diagnosis, new drug discovery, business intelligence, data analytics, customer behavior prediction, use of robotics in manufacturing and human assistance, autonomous vehicles including drones, self driving cars, computer vision etc.. In fact, it is difficult to come up with an area of human life that will not be affected by AI in the near future. The M.S. in AI program is designed to prepare the students for in the AI field with in depth applied AI courses.

For admission to the M.S. in AI, a B.S. degree in any Engineering field, Computer Science or Mathematics is required. Students with business degree or a STEM degree can also be considered if they have sufficient programming and Mathematics background. A student who already has an M.S. degree in any Engineering, Mathematics or Computer Science can also apply to do a second M.S. in AI.

The existing graduate students at university of Bridgeport can also opt for a double major in the degree they are pursuing by adding the M.S. in AI as a double major. In this case, the student will need to complete additional 18 credit hours of course work in the AI program.

Since AI is rapidly becoming a vast field, further specializations/concentrations in the AI area are available as:

1. Robotics and Automation
2. Deep Learning and Computer Vision
3. Data Sciences and Data Analytics
4. Cyber Security

Each of the above concentrations will require the student to take at least three courses in the respective area. Here is the set of courses available for each concentration:

Robotics and Automation

Introduction to Robotics – CPSC 460 (also cross listed as CPEG 460, ELEG 465 and MEEG 460)

Advanced Robotics – CPSC 461 (also cross listed as CPEG 461)
Computer Vision – CPEG 585
Introduction to Autonomous Vehicles – CPEG 588

M.S. Thesis = 6 credits (to be split over two semesters with 3 credits in each semester)
Engineering seminar = 1 credit (ENGR 400)

Deep Learning and Computer Vision

Computer Vision - CPEG 585
Deep Learning – CPEG 586
Autonomous Vehicles – CPEG 588
Advanced AI and Deep Learning – CPEG 686 (to be proposed in Fall 2020)

Data Sciences and Data Analytics

Data Mining - CPSC 552
Big Data Analytics – CPSC 651
Hadoop and NoSql – CPSC 652
Blockchain and Crypto Currency Technologies - CPSC 570

Cyber Security

Network Security – CPEG 561
Software and Application Security – CPSC 563
Cryptography – CPSC 568
Cloud Computing – CPSC 571

Total number of credits required to complete the M.S. in AI = 34. There are two core courses

Computer Vision - CPEG 585
Python for Data Sciences – CPSC 442

M.S. PROJECT OPTION

Total number of Courses Required = 10

Out of the ten courses, the student may select one or more areas of specialization in which case, the student will need to take at least three courses in the concentration area selected.

M.S. Project = 3 credits
Engineering seminar = 1 credit (ENGR 400)

M.S. THESIS OPTION

Total number of Courses Required = 9

Out of the nine courses, the student may select one or more areas of specialization in which case, the student will need to take at least three courses in the area selected.

Biomedical Engineering Master of Science Degree

Engineering Technology Building
Telephone (203) 576-4165
Fax: (203) 576-4750

Master of Science degree in Biomedical Engineering (BME) is intended to prepare individuals with a strong scientific and technical background for entry into Biomedical Engineering field at an advanced level and for further study leading to doctorate. Admission to the interdisciplinary BME program requires an undergraduate background that includes elementary coursework in biomedical engineering, biotechnology, biology, clinical science, pharmaceutical science and also includes any branch of science and engineering that permeates through the Fundamentals and advanced courses in engineering and the life sciences. The program offers innovative educational strategy that integrates biological sciences and engineering, and applies engineering tools, methods and practices to solve problems in biology and medicine. Graduates of our programs are expected to be highly-skilled biomedical engineers, and scientists who understand the ethical, social and economic implications of their work. The following fundamental course work has been identified to benefit the students most if they have them in their undergraduate degrees.

- Biomedical Materials and Engineering
- Tissue Engineering
- Bioelectronics
- Tissue culture
- Physiology

Applicants with superior academic credentials but lacking the required background can be admitted subject to their taking the necessary preparatory courses. Applicants are expected to have an average B or better in their undergraduate course work. Department offers the unique opportunity to its graduate students the education and research on how to integrate several engineering discipline principles in biomedical engineering.

The Department also offers, as an integral part of the Biomedical Engineering Masters Degree, the opportunity to specialize in several concentration areas.

1. Biomedical Materials and Engineering

2. Bioelectronics
3. Biotechnology
4. Biomedical signal and Image Processing
5. Embedded Systems
6. Bioinformatics
7. Nanotechnology in Bioengineering
8. Tissue Engineering
9. Bioinstrumentation
10. Biorobotics and automation

In addition the department also offers the opportunity to acquire dual graduate degree with electrical engineering (dual MS degree in BME/ELEG) as well as mechanical engineering (Dual MS in BMEG/MEEG). Candidates for the dual Masters Degree programs are typically required to complete a minimum total of 49 credit hours to satisfy the requirement of two Masters Degrees. This implies 15 credit hours in addition to the 34 credits required for the MS degree in Biomedical Engineering.

Learning Outcomes

Consistent with the university's vision, and with the missions of the School of Engineering and the Biomedical Engineering Program, the educational objectives for the Master of Science in Biomedical Engineering program were established as follows:

Graduates of the BME program will have a sound integrated knowledge of science and engineering fundamentals with respect to the biomedical issues.

Graduates will be proficient in the use of modern techniques, tools, procedures, and information sources which are useful in the definition and solution of problems in biomedical engineering.

Graduates will have the ability to apply their scientific knowledge and engineering tools and techniques to design useful and economically feasible novel materials, devices, systems and processes which address problems relevant to the fields of biomedical engineering.

Graduates will have the breadth and depth of knowledge, and a commitment to continued learning, necessary to understand the economic, social, ethical, and aesthetic aspects of their profession and their work, and to effectively communicate the results of their work.

Course Requirements

REQUIRED COURSES

A. A total of 34 semester hours is required. The core curriculum consists of 16 credits and includes:

BMEG 565	Biomedical Materials and Engineering (3 credits)
BMEG 412	Bioelectronics (3 credits)
BMEG 580	Tissue Engineering (3 credits)
BMEG 620	Team based research (6 credits)
ENGR 400	Seminar (1 credit)

B. The remaining 18 credits are elective courses.

The elective courses may be chosen from the list of BME concentration areas or chosen in consultation with the graduate advisor. The course descriptions are in the Graduate Studies Division section of the Catalog.

C. A team based research project of 6 credits is compulsory and the course number for that is BMEG 620 as mentioned under core courses

CORE COURSES

BMEG 410	Biosensors
BMEG 412	Bioelectronics
BMEG 440	Ergonomic Factors in Design
BMEG 451	Introduction to BioMEMS
BMEG 413	Bioinformatics
BMEG 508	Biomechanics
BMEG 561	Instrumental Analysis of Nanomaterials
BMEG 537	Biophysical Fluid Mechanics
BMEG 510	Medical Machines
BMEG 515	Advanced Digital Systems
BMEG 535	Foundations of Biotechnology and Bio-entrepreneurship
BMEG 543	Digital Signal Processing
BMEG 545	Genetics and Genomics
BMEG 546	Bio Signal Processing
BMEG 547	BioMEMS
BMEG 560	Advanced Materials and Engineering
BMEG 562	Nanofabrication with Softmaterials
BMEG 563	Polymer Nanocomposite
BMEG 565	Biomedical Materials and Engineering
BMEG 574	Pathology in Bioengineering
BMEG 580	Tissue Engineering
BMEG 573	Magnetobioengineering
BMEG 577	Cancer and Engineering
BMEG 578	Biomedical Imaging
BMEG 587	Embedded Systems Design

Computer Engineering Master of Science Degree

Engineering Technology Building
Telephone: (203) 576-4737
Fax: (203)576-4765

The Master's Degree in Computer Engineering is a course of study intended to prepare individuals whose undergraduate background is in computer or electrical engineering for advanced professional work in the field and for further study leading to the doctorate. Emphasis is placed on current state-of-the-art applications including computer architecture, FPGA and VLSI design, parallel computing, quantum computing, computer vision, artificial intelligence, sensing, robotics, automation, networking and network security, internet of things (IOT), and the like. Admission to the program requires an undergraduate degree in engineering, and includes the following fundamental coursework:

- Programming Languages
- Data Structures
- Digital Design
- Digital Design Lab
- Computer Organization
- Microprocessors
- Probability and Statistics

Applicants with superior academic credentials but lacking the required background can be admitted subject to their taking the necessary preparatory courses. Applicants are expected to have an average of B or better in their undergraduate coursework.

The Department also offers, as an integral part of the Computer Engineering Masters Degree, the opportunity to specialize in several concentration areas.

Computer Engineering Concentration areas:

1. Advanced Applications and Systems Programming
2. VLSI and FPGA Design
3. Computer and Information Security
4. Computer Communications and Networking
5. Artificial Intelligence
6. Microelectronics and Computer Architecture
7. IOT and Embedded Systems
8. Robotics and Automation
9. Signal and Image Processing

10. Software Engineering
11. Parallel and Distributed Computing

Please refer to the Graduate Studies Division Catalog pages for course details of the concentration areas.

In addition, the department also offers the opportunity to acquire dual graduate degrees along with the M.S. degree in Computer Engineering. Candidates for these dual Masters degree programs are typically required to complete a total of 52 credit hours to satisfy the requirements of two Masters degrees. This implies 18 credit hours in addition to the 34 hours required for the M.S. degree in Computer Engineering.

Please refer to the Graduate Studies Division catalogue pages for detailed information on Dual Graduate Degree programs.

Furthermore, customized study plans to allow receiving the Computer Engineering M.S. degree while pursuing either the Ph.D. degree in Computer Science and Engineering or the Ed.D. degree in Education are available. Doctoral students in these two programs should consult their respective doctoral advisors to work on their individualized plans. Further details on the dual M.S. in Computer Engineering degree programs are available in the catalog section on the Graduate Studies Division.

Program Objectives

Our Computer Engineering Students will:

Apply foundational scientific concepts and sound engineering principles efficiently and effectively.

Be well-educated, highly valued, and successful engineers and scientists.

Significantly contribute to technical interdisciplinary team projects.

Professionally communicate technical solutions and results.

Continue to pursue lifelong multidisciplinary learning as professional engineers and scientists.

Learning Outcomes

Our Computer Engineering Students will:

Demonstrate an in depth and comprehensive understanding of Computer Engineering.

Have an enhanced ability to learn, on their own, technical details for which they are responsible.

Have an enhanced ability to apply the knowledge learned to solve technical problems that arise in research they conduct or supervise.

Have an enhanced ability to study an issue, identify and evaluate alternative actions, propose an optimal course of action.

Have an enhanced ability to prepare technical point papers, brief their seniors, and defend their conclusions.

Course Requirements

REQUIRED COURSES

A. A total of 34 semester hours is required. The core curriculum consists of 15 credits and includes:

CPSC	501	Object Oriented Programming using Software Design Patterns Using C++
CPEG	510	Introduction to Computer Architecture
CPEG	572	Data and Computer Communication
CPEG	448D	Introduction to VLSI Design
or CPEG	447	Logic Synthesis Using FPGAs
ELEG	443	Applied Digital Signal Processing

B. THE REMAINING 18 CREDITS ARE ELECTIVE COURSES.

The elective courses may be chosen from the list of Computer Engineering concentration areas or chosen in consultation with the graduate advisor. Also, students are required to take ENGR 400 (Engineering Colloquium).

The course requirements of the concentration areas are described in the Graduate Studies Division section of the catalog.

C. STUDENTS MUST DO A MASTERS PROJECT (3 CREDIT HOURS) OR THESIS (6 CREDIT HOURS) AS PART OF THE 18 ELECTIVE CREDIT HOURS.

The concentration areas can be applied to satisfy the requirements of second Masters degree programs of study.

Computer Science Master of Science Degree

Engineering Technology Building
Telephone: (203) 576-4737
Fax: (203) 576-4765

The Master's Degree in Computer Science is intended to prepare individuals with a strong mathematical, scientific, or technical background for entry into the computer science field at an advanced level and for further study leading to the doctorate. Admission to the program requires an undergraduate background that includes elementary physics, calculus sequence, linear algebra, and the following fundamental coursework in computer science:

- Programming Languages and Technique
- Data Structures and Algorithms
- Digital Design
- Discrete Structures
- Computer Organization
- Probability and Statistics

Applicants with superior academic credentials but lacking the required background can be admitted subject to their taking the necessary preparatory courses. Applicants are expected to have an average of B or better in their undergraduate coursework.

The Department also offers, as an integral part of the Computer Science Masters Degree, the opportunity to specialize in several concentration areas.

Computer Science Concentration Areas:

1. Advanced Applications and Systems Programming
2. Artificial Intelligence and Deep Learning
3. Computer Vision and Autonomous Vehicles
4. Computer and Information Security
5. Computer Communications and Networking
6. Cloud, Web, Services Oriented Architecture and Blockchain technologies
7. Big Data, Data Mining and Hadoop NoSql
8. Robotics and Automation
9. Internet Of Things (IOT) and Embedded Systems
10. Software Engineering
11. Parallel and Distributed Processing

Please refer to the Graduate Studies Division Catalog pages for course details of the concentration areas.

In addition, the department also offers the opportunity to acquire dual graduate degrees along with the M.S. degree in Computer Science. Candidates for these dual Masters degree programs are typically required to complete a total of 52 credit hours to satisfy the requirements of two Masters degrees. This implies 18 credit hours in addition to the 34 hours required for the M.S. degree in Computer Science.

Please refer to the Graduate Studies Division catalogue pages for detailed information on Dual Graduate Degree programs.

Furthermore, customized study plans to allow receiving the Computer Science M.S. degree while pursuing either the Ph.D. degree in Computer Science and Engineering are available. Doctoral students in the program should consult their respective doctoral advisors to work on their individualized plans. Further details on the dual M.S. in Computer Science degree programs are available in the catalog section on the Graduate Studies Division.

Program Objectives

Our Computer Science Students will:

Apply foundational scientific concepts and sound engineering principles efficiently and effectively.

Be well-educated, highly valued, and successful engineers and scientists.

Significantly contribute to technical interdisciplinary team projects.

Professionally communicate technical solutions and results.

Continue to pursue lifelong multidisciplinary learning as professional engineers and scientists.

Learning Outcomes

Our Computer Engineering Students will:

Demonstrate an in depth and comprehensive understanding of Computer Science.

Have an enhanced ability to learn, on their own, technical details for which they are responsible.

Have an enhanced ability to apply the knowledge learned to solve technical problems that arise in research they conduct or supervise.

Have an enhanced ability to study an issue, identify and evaluate alternative actions, propose an optimal course of action.

Have an enhanced ability to prepare technical point papers, brief their seniors, and defend their conclusions.

Course Requirements

REQUIRED COURSES

A. A TOTAL OF 34 SEMESTER HOURS IS REQUIRED. THE CORE CURRICULUM CONSISTS OF 6 CREDITS AND INCLUDES:

- CPSC 501 Object Oriented Programming with Design Patterns
CPSC 502 Analysis of Algorithms

B. THE REMAINING 28 CREDITS ARE ELECTIVE COURSES.

The elective courses may be chosen from the list of Computer Science concentration areas or chosen in consultation with the graduate advisor.

The course requirements of the concentration areas are described in the Graduate Studies Division section of the catalog.

C. STUDENTS MUST DO A MASTERS PROJECT (3 CREDIT HOURS) OR THESIS (6 CREDIT HOURS) AS PART OF THE 28 ELECTIVE CREDITS HOURS.

Since July 2004, the Department of Computer Science and Engineering has been offering the full M.S. degree program in Computer Science through distance learning. For more information please contact the department or visit: <http://www.bridgeport.edu/ub/dlearning/>

The concentration areas can be applied to satisfy the requirements of dual Masters degree programs of study.

Electrical Engineering Master of Science Degree

Engineering Technology Building
Telephone: (203) 576-4571
Fax: (203) 576-4117

This Program is designed to increase the student's knowledge and competence in basic areas necessary for Modern Electrical Engineering, while affording sufficient freedom to allow an in-depth study of such areas as Communications, Control Systems, Electronics and Digital Processing. Electrical Engineering department offers five areas of concentration. The concentration areas allow EE students to acquire in-depth knowledge of a specific area of their interest. Each concentration consists of 400 - 600 level specialization courses. EE students, perusing a concentration, will be required to take at least 4 courses from the area of concentration. Student may request to record concentrations on the degree or certificate after completing graduation requirements. Some elective courses, as noted below, may require special permission or additional prerequisites.

1. Power and Renewable Energy
2. Signal Processing and Communications
3. Robotic, automation and PLC
4. VLSI and Integrated Circuits
5. Biomechatronics

Please refer to the Graduate Studies Division Catalog pages for course details of the concentration areas.

In addition, the department also offers the opportunity to acquire dual graduate degrees along with the M.S. degree in Electrical Engineering. Candidates for these dual Masters degree programs are typically required to complete a total of 48 credit hours to satisfy the requirements of two Masters degrees. This implies 18 credit hours in addition to the 30 hours required for the M.S. degree in Electrical Engineering.

Please refer to the Graduate Studies Division catalogue pages for detailed information on Dual Graduate Degree programs.

Furthermore, customized study plans to allow receiving the Electrical Engineering M.S. degree while pursuing either the Ph.D. degree in Computer Science and Engineering or the Ed.D. degree in Education are available. Doctoral students in these two programs should consult their respective doctoral advisors to work on their individualized plans.

Further details on the dual M.S. in Electrical Engineering degree programs are available in the catalog section on Graduate Studies Division.

Admission Requirements

Students must have a Bachelor of Science in Electrical Engineering or a related field. In both cases, the department may require make-up of background deficiencies.

COURSE REQUIREMENTS

- A. A total of 30 semester hours is required in an approved program of study. Some students in this program enter with an undergraduate record lower than desired. These students are told in their admit letter that they must take 33 or 36 or 39 credits for their MS in E.E program.
- B. The Master's thesis is optional. If undertaken, it counts as 6 semester hours and must be conducted under the supervision of an EE Department faculty member. If the Master's thesis is not taken, then EE-597 must be taken for 3 credits.
- C. 400 or 500 level courses in Electrical Engineering, Computer Engineering and Computer Science are acceptable, with advisor approval, to count for the course requirements of the MS in E.E program.
- D. It is recognized that not all students will have the necessary depth of study in their preparatory program for the MSEE. Consequently, the Department may permit a maximum of two undergraduate electives to be taken for graduate credit.
- E. A total of one course in Mechanical Engineering or Technology Management is allowed to be taken toward the Master of Science in electrical Engineering.

The elective courses may be chosen from the list of Electrical Engineering concentration areas or chosen in consultation with the graduate advisor.

The course requirements of the concentration areas are described in the Graduate Studies Division section of the catalog.

The concentration areas can be applied to satisfy the requirements of dual Masters degree programs of study.

Learning Outcomes

Students in the M.S. Electrical Engineering

Program will be able to 1) demonstrate the ability to use techniques, skills and modern engineering tools necessary for engineering practice; 2) demonstrate the ability to plan and conduct laboratory experiments and interpret and report results; 3) demonstrate the ability to identify and apply concepts of engineering economics and project planning; 4) demonstrate knowledge of contemporary global and societal issues and their relationship; and 5) exercise strong oral and written communication skills including those needed for technical writing.

COURSE REQUIREMENTS

REQUIRED COURSES

ENGR 400 Seminar (1 credit)

THE REMAINING 30 CREDITS ARE ELECTIVE COURSES.

The elective courses may be chosen from the list of EE concentration areas or chosen in consultation with the graduate advisor. The course descriptions are in the Graduate Studies Division section of the Catalog.

OPTIONAL CONCENTRATION IN POWER AND RENEWABLE ENERGY

1. ELEG 418 Renewable Energy
2. ELEG 419 Fuel Cells
3. ELEG 420 Hybrid Vehicle
4. ELEG 435 Electric Machines
5. ELEG 438 Power System Analysis
6. ELEG 436 Advanced Power System Analysis
7. ELEG 440 Electric Power Distribution Systems
8. ELEG 492 Sustainable Energy Lab
9. ELEG 479 Solar Energy and Solar Cell

OPTIONAL CONCENTRATION IN ROBOTIC, AUTOMATION AND PLC

1. ELEG 464 PLC (programmable logic controls)
2. ELEG 411 Advanced PLC
3. ELEG 463 Industrial Control Lab
4. ELEG 461 Controls Lab
5. ELEG 417 Controls
6. ELEG 467 Introduction to Mechatronics
7. ELEG 465 Intro to Robotics

OPTIONAL CONCENTRATION IN BIOMECHATRONICS

1. ELEG 467 Introduction to Mechatronics
2. ELEG 412: Bioelectronics
3. ELEG 413: Bioinformatics
4. ELEG 510: Medical Machine
5. ELEG 547: Bio MEMS
6. ELEG 513: Biomedical Image Processing
7. ELEG 459: Audio Signal Processing Lab
8. ELEG546 Biosignal Processing

Electrical Engineering Master of Science Degree

OPTIONAL CONCENTRATION IN SIGNAL PROCESSING AND COMMUNICATIONS

1. ELEG 416 Fiber Optics Lab
2. ELEG 443 Digital Signal Processing
3. ELEG 543 DSP Lab
4. ELEG 453 Pattern Recognition
5. ELEG 546 Bio-signal Processing
6. ELEG 450 Communications lab
7. ELEG 430 Satellite Communications
8. ELEG 441: RF Communication
9. ELEG 459: Audio Signal Processing Lab
10. ELEG 442: Digital Communications
11. ELEG 513: Biomedical Image processing
12. ELEG 543: Digital Signal Processing Lab

OPTIONAL CONCENTRATION IN VLSI AND INTEGRATED CIRCUITS

1. ELEG 548: Low Power VLSI Design
2. ELEG 458: Analog VLSI Circuit Design
3. ELEG 480: Digital Electronics
4. ELEG 482: Analog Integrated Circuits
5. ELEG 403: RF VLSI
6. ELEG 404: Digital VLSI / CPEG 348 VLSI Design
7. ELEG 446: Introduction to MEMS
8. ELEG-451: Intro. to Nanotechnology
9. ELEG 549: VLSI Testing
10. ELEG 448: Microelectronic Fabrication
11. ELEG 447: Semiconductors

Mechanical Engineering Master of Science Degree

Engineering Technology Building
Telephone: (203) 576-4575

This degree program prepares the student for a successful career through advanced study in design, development, analysis, manufacturing, and maintenance of mechanical systems for a wide range of industries, including transportation, automation, medical, energy generation, electronics, and sports. The program combines core mechanical engineering courses with technical electives that enables the student to increase his/her knowledge and competence in essential skills for Mechanical Engineering while affording sufficient freedom to provide in-depth study in both traditional and contemporary curriculum areas and explore emerging interdisciplinary areas. The department provides the flexibility to allow the student to select his/her own specialty from the technical areas below:

1. General Mechanical Engineering
2. Biomechanical Engineering
3. Design Engineering
3. Manufacturing Engineering and Management
5. Mechanics and Materials
6. Mechatronics and Automation
7. Micro and Nano Engineering
8. Aerospace Engineering
9. Thermal Fluid System and Sustainable Energy

The student can design an individualized program of study with the help and approval of his/her faculty advisor if the academic and career goals extend beyond the available technical areas.

Learning Outcomes

Students will:

1. demonstrate the ability to design or analyze a system, component or process to meet desired objectives within realistic, contemporary constraints such as health and safety, ethics, performance, sustainability and economics;
2. demonstrate the ability to use the techniques, skills, and modern engineering and scientific tools necessary for engineering practice;

3. demonstrate the ability to create, adapt, transfer and integrate existing and emerging technologies into new products, processes and services;
4. develop decision making, risk assessment and problem solving skills considering both economic and other constraints; and
5. develop both technical and management oral presentation and written communication skills.

Admission Requirements

The Master of Science degree in Mechanical Engineering is intended to prepare individuals with a strong mathematical, scientific, or technical background for entry into the Mechanical Engineering field at an advanced level and for further study leading to the doctorate. Admission to the program requires a Bachelor's degree in Mechanical Engineering or other related engineering degree. Students with superior credentials in other engineering or science programs can be accepted into the program if they have taken sufficient mathematics and physics courses, including calculus, differential equations, and two semesters of course work of general physics. Additional courses may be required to make up deficiencies in core Mechanical Engineering areas. Applicants are expected to have an average of B or better in their undergraduate coursework.

In addition, the department also offers the opportunity to acquire double graduate degrees along with the M.S. degree in Mechanical Engineering. Candidates for these double Masters degree programs are typically required to complete a total of 48 credit hours to satisfy the requirements of two Masters degrees. This implies 18 credit hours in addition to the 30 hours required for the M.S. degree in Mechanical Engineering.

Please refer to the Graduate Studies Division catalogue pages for detailed information on Double Graduate Degree programs. Furthermore, customized study plans to allow receiving the Mechanical Engineering M.S. degree while pursuing either the Ph.D. degree in Computer Science and Engineering or the Ed.D. degree in Education are available. Doctoral students in these two programs should consult their respective doctoral advisors to work on their individualized plans. Further details on the dual M.S. in Mechanical Engineering degree programs are available in

the catalog section on the Graduate Studies Division.

COURSE REQUIREMENTS

A minimum of 31 semester hours is required for the MSME degree. The program combines core mechanical engineering courses with technical electives. The student is recommended to choose at least 3 electives for in-depth study in one technical area and use the rest electives for exploration in a broader technical area.

- 3 courses (9 credit hours) from the Mechanical Engineering core courses
 - MEEG 410 Advanced Fluid Dynamics
 - MEEG 451 Advanced Strength Analysis
 - MEEG 452 Advanced Vibrations
 - MEEG 453 Finite Element Methods
 - MEEG 454 Advanced Dynamics
 - MEEG 462 Applied Thermodynamics
 - MEEG 463 Advanced Heat Transfer
- 3 courses (9 credit hours) from one technical area
- MEEG 597 Masters project (3 credit hours) or MEEG 598 Masters thesis (6 credit hours)
- 2-3 elective courses (6-9 credit hours)
- ENGR 400 Engineering Colloquium (1 credit hour)

As a general guideline, only one course outside of Mechanical Engineering is allowed toward the MSME degree. However, another out-of-department course can be taken if it is required for the chosen technical area and has the approval of both the advisor and chairman.

The following is a brief introduction of the technical areas supported by the department.

GENERAL MECHANICAL ENGINEERING

The General Mechanical Engineering area prepares students for a broad range of career choices in the field of mechanical engineering and for their further Ph.D. study.

AEROSPACE ENGINEERING

The Aerospace Engineering area focuses on the design, manufacturing, innovation, performance and safety of aircraft and spacecraft.

Mechanical Engineering Master of Science Degree

BIOMECHANICAL ENGINEERING

The Biomechanical Engineering area studies the application of mechanical engineering principles to the conception, design, development, analysis and operation of biomechanical systems. Coursework includes biomaterials, biotransport, biomechanics and biomedical instrument design.

DESIGN ENGINEERING

The Design Engineering area focuses on product/machinery design and application in a variety of industries, such as the design and development of green (solar) energy system, biomedical instrumentation, automobile components and systems, automation, and different products.

MANUFACTURING ENGINEERING AND MANAGEMENT

The Manufacturing Engineering and Management area provides advanced study in manufacturing. The program of study includes advanced materials and manufacturing processes, assembly and product engineering, automation in manufacturing, and manufacturing competitiveness. This prepares students with state-of-the-art knowledge, hands on experience and competency in world-class manufacturing environments. Course work emphasizes global corporate and business practices, and Manufacturing Shop Floor environments.

MECHANICS AND MATERIALS

The Mechanics and Materials area provides understanding of engineering materials and structures and their mechanical response and failure behavior with advanced theories, analysis methods, and modeling and simulation tools. It helps the student develop modeling and simulation skills needed to understand and enhance the thermo-mechanical behavior of engineering devices and systems.

MECHATRONICS AND AUTOMATION

The Mechatronics and Automation area studies the applications of mechatronics in manufacturing and other industrial automation, including sensors, microprocessors, programmable logic controllers and robotics.

MICRO AND NANO ENGINEERING

The Micro and Nano engineering area studies the micro- and nanotechnology in the

mechanical systems, including the design, fabrication, packaging and modeling of microelectromechanical systems (MEMS), nano materials analysis and fabrication, fluidics, heat transfer and energy conversion at micro- and nanoscales.

THERMAL FLUID SYSTEMS AND SUSTAINABLE ENERGY

The Thermal Fluid System and Sustainable Energy area provides advanced study in thermal fluid systems and sustainable energy. Courses include heating, ventilation and air conditioning (HVAC); aerodynamics and hydrodynamics of sports and vehicles; transport phenomena (heat and mass transfer and fluid flow) in manufacturing processes and medical devices; thermal management of electronics; thermal fluids system design; solar energy applications and fuel cells.

Technology Management Master of Science Degree

Schools of Business and Engineering
Mandeville Hall
230 Park Avenue
Telephone: (203) 576-4870

The Master's Program in Technology Management (TM) is designed to prepare you for the fast-moving global economy where the ability to manage advances in management, engineering, science and technology is critical to innovation, competition and success. We develop leaders adept at managing technology-dependent organizations, emerging technology-based entrepreneurial businesses, technology change and innovation, and skills in establishing and maintaining superior competitive advantages for their organizations.

The Master's program is an innovation interdisciplinary graduate program that enables you to seamlessly and easily integrate courses and concentrations offered by various departments and schools at UB. Our graduates have obtained positions in engineering, technology, management and other professional careers in a wide spectrum of industries and organizations. As an integral part of the M.S. in TM, we give you the opportunity to specialize in a number of exciting concentrations after you complete specific core courses. Thus preparing you for select highly sought after industry certifications.

The MS in Technology Management program is accredited by the International Association for Management of Technology (IAMOT).

Our school has a strong internship program which allows students to work for outside companies while completing their degree. We also have on-campus jobs both within and outside the TM department.

Learning Outcomes

The UB Technology Management Program is specifically designed to develop skills and competencies such as:

1. Identifying and evaluating the impact of relevant changing technology and managing those changes.
2. Designing programs to identify, develop and implement innovative technological based solutions.
3. Managing the effective planning and execution of those technology based initia-

tives and the integration of their results into the mainstream of an enterprises' strategy, processes and operations.

4. The application of technology to create wealth.
5. Leadership, the creation and sustenance of high-performance global teams and enabling innovation.

The Department offers, as an integral part of the Technology Management Masters Degree, the opportunity to specialize in a number of concentrations, which are inter-disciplinary and available through various departments to provide more educational and career choices and flexibility for the students:

- Global Program and Project Management
- Manufacturing Management
- Supply Chain, Logistics and Service Management
- Quality Management & Continuous Improvement
- Bio-Technology Management
- Information Technology & Analytics Management
- New Product Development, Management & Commercialization

Course Requirements

- A. A total of 34 semester hours is required in an approved program of study for the M.S. in Technology Management.
- B. Completion of the following core courses (18 credit hours):

TCMG 400	Marketing, Entrepreneurship and Innovation Issues & Practices in Management
TCMG 495	Technical Writing in Communications and Research in Engr & Tech Mgmt
TCMG 524	Statistical Quality Control Techniques
MGMT 555	
or MGMT 632	
or MGMT 723	Global Program & Project Management
MGMT 523	
or MGMT 723	Leadership, Teams and Managing Change
TCMG 525	Finance and Accounting for Managers

- C. Completion of TCMG 595 Capstone or TCMG 597 Master's Project or TCMG 598 Master's Thesis (3 credit hours):

TCMG 595 is a Capstone/Project course designed to integrate concepts taught throughout the program and requires the development of a Business Plan as one of the course requirements.

Students may alternately complete a thesis or master's project.

D. Completion of ENGR 400 (1 credit)

E. Elective Courses (12 credit hours)

Students must take four elective courses (12 credit hours). These electives may be selected from any of the concentration areas listed above, in consultation with the program academic advisor. A list and description of the courses available in each concentration is available in the catalog section on course descriptions.

The concentration areas can be applied to satisfy the requirements of dual Masters degree programs of study.

Other Technology Management project courses:

TCMG 500	Graduate Co-Op/Internship in Technology Management (1-3 credit hours)
TCMG 597	Master's Project (3 credit hours)
TCMG 597C	Masters Project Extension (1 credit hour)
TCMG 598	Thesis in Technology Management (3-6 credit hours)
TCMG 599	Independent Study in Technology Management (3 credit hours)

As a pre-requisite for the program, all students are expected to have a demonstrated familiarity with statistical analysis. Any remedial course taken to meet this requirement will not be considered as an elective. Students are also expected to demonstrate basic computing skills.

Since July 2004, the Department of Technology Management has been offering these courses for the M.S. degree program in Technology Management through distance learning. For more information please contact the department or visit: <http://www.bridgeport.edu/ub/dlearning/>

Computer Science and Engineering Ph.D. Program

Engineering Technology Building
Telephone: (203) 576-4703
Fax: (203) 576-4765

The Ph.D. degree is a certification of critical aptitude in scholarship, imagination, knowledge in the discipline, enterprise in research, and proficiency and style in communication. A candidate obtaining a Ph.D. degree must display a thorough understanding in the major areas of computer science and engineering and must master the necessary tools and techniques so as to be able to make original contributions to the field of computer science and engineering. An equally important aspect is that of proficiency in oral and written communication skills.

The requirements of the Ph.D. program are: successful completion of preliminary examinations and courses, satisfactory performance in written comprehensive and oral examinations, admission to Ph.D. candidacy, successful completion and defense of original work documented as a dissertation, and the satisfaction of additional requirements such as teaching and seminars.

The formal degree to be offered is the Doctor of Philosophy in Computer Science and Engineering. This will be awarded to candidates who complete all the requirements of the Ph.D. degree described later in this section.

Admission Requirements

Students admitted to the Ph.D. program should have a master degree in computer science or computer engineering or a closely related discipline with at least a 3.5 GPA. A score of at least 150 is required in the verbal section, and 165 is required in the quantitative section of the GRE scores. Conditional admission to the Ph.D. program is not available.

International students with a master's degree in computer science or computer engineering are also required to have a TOEFL IBT score of at least 80 or a minimum IELTS score of 6.5.

Learning Outcomes

A graduate scholar from the Ph.D. program in the School of Engineering will: 1) use advanced mathematical proof methodologies in computer science and engineering; 2) dem-

onstrate a robust and in-depth background in hardware and software issues in computer science and computer engineering; 3) possess a strong background in implementing software systems and/or hardware systems; 4) possess a strong background in designing diverse and integrated software/hardware systems solutions; and 5) critically analyze problems and thoroughly evaluate potential benefits of alternative solution in designing software and/or hardware systems.

Program Requirements

A. Academic Requirements:

1. Eight (3-credit hours) courses at the 500 or 600 level, in the discipline, excluding independent studies. In addition, two (3-credit hours) courses at the five-hundred or six-hundred level from the Technology Management Department are required to satisfy the Information Technology Globalization Track requirement. Only courses with at least B grade can be counted towards satisfying the course requirements.
2. A two-semester teaching practice requirement (3 credit hours each), for which students are to register with no fees. The students will be expected to teach lower undergraduate level classes, and/or assist professors as teaching assistants (i.e., perform a significant teaching role), thus giving Ph.D. graduates experience for an academic teaching career.
3. At least 15 semester hours of dissertation research, culminating in a dissertation proposal defense and dissertation defense.
4. Comprehensive examination: written and oral (proposal defense).
5. Publication of at least two journal papers, or one journal paper and two refereed conference papers, within the course of the Ph.D. topic research. These publications are not required to be single-authored by the student and they might be co-authored with members of the dissertation committee. The journals and conferences are expected to meet quality metrics established by the Department of Computer Science and Engineering.

B. Time and Load Guidelines:

Both full and part-time students are encouraged to apply for the Ph.D. degree, which should be completed within a maximum of seven calendar years. A Ph.D. student (part-time or full-time) is expected to devote the necessary time to courses and research to make satisfactory progress toward the degree. Satisfactory progress includes active participation in the research and teaching environment of the School of Engineering. The student advisor and dissertation committee should advise the student as to her/his progress in the program. Full-time students are required to register for at least 9 credit hours each semester while part-time students are required to register for at least 6 credit hours per academic year (spring and fall semesters).

C. Course Work:

A Ph.D. candidate must complete at least 30 credit hours of course work, not including the dissertation, beyond the MSc. degree. Upper level undergraduate remedial courses cannot be used to fulfill the course work requirement.

D. Course Grade Point Average:

A Ph.D. student is expected to maintain a G.P.A. of 3.0 or more. If the G.P.A. falls below 3.0, the student is automatically placed on probation. Continued probationary status for two semesters may lead to dismissal of the candidate from the program. No grade less than B is acceptable towards the course work requirement.

E. Seminar Requirement:

A Ph.D. student is expected to present her/his research findings in public seminars. S/he is also expected to interact and participate in professional discussions and meetings such as conferences and workshops. To fulfill these requirements, a Ph.D. student is expected to present one seminar before the dissertation defense. The seminar of his/her research topic for the dissertation serves as the oral (proposal defense) part of the comprehensive exam. The Ph.D. Director awards a Pass/Fail grade after consultation with the Ph.D. director student's dissertation advisor. The student is required to register for one seminar course.

Computer Science and Engineering Ph.D. Program

F. Core Courses:

Ph.D. candidates are required to finish a set of 4 courses out of a list of 7 core courses. The Department of Computer Science and Engineering publishes a list of core courses every two years. The list is available through the Ph.D. Program Director. For the academic year, 2017 – 2018, the list of core courses include CPSC 606 Quantum Computing, CPEG 585 Computer Vision, CPEG 560 Advanced Robotics, CPSC 590 Parallel Processing, CPEG 562 Cryptography and Cryptanalysis, CPEG 547 Field Programmable Gate Arrays and CPSC 552 Data Mining.

G. Comprehensive Examination:

One of the major checkpoints in the Ph.D. program that assesses the breadth and depth of the student is the written and oral (proposal defense) comprehensive examination. Passing the Written Comprehensive Examination is granted when the student achieves at least a 3.5 GPA in the 4 core courses with at least B grade in each course.

The seminar requirement represents the oral (proposal defense) section of the exam. The outcome of this examination will be of fail or pass. A student can re-take this examination no more than once. A student who does not pass the comprehensive examination in two attempts will be dismissed from the program.

H. Dissertation Committee:

After selecting a dissertation advisor, the student is required to define a problem of merit, carry out a literature search and prepare a course of action to solve the selected problem. The candidate is expected to produce a dissertation proposal. The dissertation advisor in consultation with the Ph.D. program Director, recommends a dissertation committee for the student. The dissertation committee includes at least three members in addition to the dissertation advisor. At least four members of the dissertation committee must be from a professorial rank within the school. Additionally, an external examiner is appointed as well. It is expected that the dissertation Supervisor and at least 50% of the committee membership has to be from professorial ranks of the Computer Science and Engineering Department. The external examiner is one

whom has been distinguished in the field of computer science and engineering. S/he might not hold a professorial rank. Ph.D. Program Director and the Dean of the School of Engineering must then approve the dissertation committee.

I. Admission to Candidacy:

When a student passes the written comprehensive examination, s/he will be admitted to Ph.D. candidacy. This serves as another significant milestone in progress towards the Ph.D. degree.

I. Residency Requirement:

The Ph.D. program is an on-campus program that has a two years residency requirement. Residency can be demonstrated by taking on-campus classes, satisfying the teaching requirement, and attending seminars and meetings in the School of Engineering.

J. Dissertation:

The student is expected to work on the accepted topic and come up with original results. S/he has to report the results in the form of a Ph.D. dissertation. The student is encouraged to document the intermediate results in the form of technical reports. S/he is also encouraged to publish these results as they are discovered, in the international professional literature, i.e., refereed conference proceedings and journals. Proof of good work is the acceptance of the results by reputed journals. Intermediate results can also be discussed in departmental seminars. The completed dissertation must be distributed to the dissertation committee members at least two weeks before the dissertation defense. The committee will read it and certify that the dissertation is a work of substantial merit and that it can be defended. It is the responsibility of the student that the final draft of the dissertation addresses all legitimate concerns of the committee members.

K. Dissertation Defense Examination:

After having secured approval from the dissertation committee members regarding the worthiness of the dissertation, a student will proceed with a request for the dissertation defense examination. The chairman of the dissertation committee will chair the examination. The student will schedule a convenient time for a public defense. It is the responsibility of the student to find a time that is suitable to all the members of the dissertation committee, at least two weeks before the defense. At the end of the defense, the decision of the dissertation committee will be pass or fail. It is the responsibility of the dissertation advisor to see that the comments and the criticism of the audience are addressed adequately in the final version of the dissertation. Based on the recommendation of the dissertation committee, the Ph.D. Director, and the Departmental Chairman, the Dean of the School of Engineering will recommend the Ph.D. degree subject to the satisfaction of all other formal requirements.

CONCENTRATION AREAS

The following is a list of Research / Concentration Areas under the Ph.D. Program.

1. Computer architecture and VLSI and FPGA
2. Design, modeling, and simulation of embedded and integrated systems and device applications
3. Electromechanical systems prototyping and optimization
4. Robotics, automation, machine perception and sensing
5. Software engineering, Web development, and computational sciences
6. Systems and computer security and biometrics
7. Mobile communications, cloud computing, Internet of Things and networking.

SUMMARY OF MILESTONES

A summary of steps, not necessarily ordered, through which a student will proceed is as follows:

1. Admission to the Ph.D. program in computer science and engineering.
2. Completing prerequisites.
4. Completing the course work requirement for the Ph.D.
5. Passing the requirements written comprehensive examination.
6. Admission to ‘Candidacy.’
7. Selection of a dissertation advisor.
8. Writing a dissertation proposal.

Computer Science and Engineering Ph.D. Program

9. Completion of the seminar requirement and working on the proposed research topic.
10. Formation of the dissertation committee.
11. Approval of the dissertation by the dissertation committee.
12. Successful completion of the dissertation defense.
13. Submission of the dissertation to the School of Engineering.
14. Graduation with a Ph.D. degree in Computer Science and Engineering.

Technology Management Ph.D. Program

221 University Avenue
Technology Building
Telephone: (203) 576-4379
Fax: (203) 576-4750

Program Overview

The Ph.D. in Technology Management (TM) is designed to meet an emerging industry and academic need by offering a quality doctoral program to both part-time and full-time students in two inter-related areas: 1) new technology venture creation (e.g. entrepreneurship and corporate venturing), and 2) select current and emerging technologies. The program will encompass an integrated multi-disciplinary technology and management approach.

The Ph.D.-TM program is specifically designed to develop interdisciplinary skills and competencies in research and management of technology-dependent enterprises, technology-based entrepreneurship and new product, service and venture creation. While the Ph.D.-TM is housed in the School of Engineering, the Ph.D. degree facilitates and encourages interdisciplinary studies across the School of Engineering and the School of Business and utilizes their complementary research facilities, faculty and lab resources.

The Ph.D. degree is a certification of critical aptitude in scholarship, creativity, knowledge in the discipline, enterprise in research, and proficiency and style in communication. A candidate obtaining a Ph.D. degree must display a thorough understanding in the major areas of Technology Management and must master the necessary tools and techniques so as to be able to make original contributions to the field of Technology Management. An equally important aspect is that of proficiency in oral and written communication skills.

The requirements of the Ph.D. program are: successful completion of preliminary examinations and courses, satisfactory performance in the written comprehensive and oral (proposal defense) examinations, admission to Ph.D. candidacy, successful completion and defense of original work documented as a dissertation, and the satisfaction of additional requirements such as teaching courses, seminars and publications.

The formal degree to be offered is the Doctor of Philosophy in Technology Management.

This will be awarded to candidates who complete all the requirements of the Ph.D. degree described later in this section.

Ph.D. in Technology Management Program-Level Learning Objectives

The Ph.D. in Technology Management Program goals are in line with the mission statement of the School of Engineering of the University of Bridgeport. In this regard, the Ph.D. program is designed to provide comprehensive education and research opportunities to a diverse student population consisting of highly qualified and competent students, scholars, industry professionals and researchers in engineering, sciences, and the application and management of technology. The program aims at preparing these highly credentialed individuals for leadership and technology positions in industry, government, and academia with significant contribution to the profession and community locally, nationally, and globally. The program offers an application oriented interdisciplinary curricula to provide a distinctive education in fundamental and emerging disciplines through its faculty and institutional partners while ensuring that the graduates possess creative, innovative, and analytical skills with a strong commitment to research and technical excellence, ethical conduct, and cultural, societal, and global well-being.

PROGRAM GOALS:

- To prepare highly qualified and competent Ph.D. level scholars, industry professionals and researchers in the advance and interdisciplinary field of Technology Management.
- To prepare Ph.D. level scholars, industry professionals and researchers who are able to conduct research and develop strategies and plans to identify, develop and implement innovative technological based solutions while championing and sustaining innovation initiatives and environments.
- To prepare Ph.D. level scholars, industry professionals and researchers who are able to manage the effective planning and execution of those technology based initiatives and the integration of their impact into the mainstream of an enterprises'

strategy, processes and operations.

- To prepare Ph.D. level scholars, industry professionals and researchers who are able to manage the application of technology to create wealth and economic development as in successful entrepreneurship and/or intrapreneurship or corporate venturing initiatives.
- To develop future leader and managers in technology or technology dependent organizations that are able to lead and motivate high-performance and diversified global teams.

OUTCOMES ASSESSMENT:

There are two types of outcomes that need to be monitored: Institutional Outcomes and Student Outcomes.

STUDENT OUTCOMES:

Familiarity with principles of new venture creation, entrepreneurship, corporate venturing, innovation, and related issues including management, finance, legal issues, new product development, and product commercialization.

Familiarity with advanced concepts of methodologies in technology management.

Possessing a strong background in one or more engineering and technology area offered in the Ph.D. program.

Possessing a strong background in implementing new technology based businesses and ventures.

Being able to critically analyze problems and evaluate the benefits of alternative solutions in new technology-based international opportunities and corporate ventures.

Being able to work in a development team to address specific issues and problems.

Being able to interact and communicate both verbally and in writing with people whose expertise is in different domains and who are located across the globe.

Being able to effectively teach in a higher education institution.

Being able to write quality research papers for inclusion in prominent journals, and research proposals for submission to funding agencies.

Being prepared to become a future leader, professional, academic and researcher with interdisciplinary skills, to join the faculty of leading academic institutions or take high

Technology Management Ph.D. Program

level research, consulting and management positions in industry, non-profit organizations, government or start their own ventures.

Admission Requirements

The Ph.D. in Technology Management program is an advanced level program. Students are expected to demonstrate an understanding of fundamental concepts in management and technology gained through appropriate undergraduate and graduate (master) education. Students who are accepted into the Ph.D. program but lack some of those fundamental concepts will be required to remedy their deficiencies through completing satisfactory undergraduate or graduate courses (without graduate credit).

Students admitted to the Ph.D. program should have a business or management degree as well as an engineering, computer science or technology degree. To be more specific, a student should have either an (1) undergraduate Engineering or Technology (STEM* category) and an MBA or MS in Technology Management or Engineering Management or Management of Technology or equivalent degree; or (2) an undergraduate Business or Management or TM or MOT or equivalent and a Master's degree in Engineering, Technology or STEM category, with at least a 3.3 GPA. Three+ years of industry experience or equivalent is desired. Students admitted from non-English speaking countries, having a Masters degree in engineering and an undergraduate in business or vice-versa will also be required to have a TOEFL score of at least 550 or equivalent (IBT = 80, IELTS = 6.5). The GRE exam is required for admission. Students with an undergraduate and graduate degree in engineering or a STEM category, with three or more years of business experience, may also be accepted into the Ph.D. program. The applicant must submit two letters of reference and a personal statement (containing such information as background; experience, motivation for pursuing the Ph.D. in TM areas and suggested topics for potential dissertation research, etc.)

Interested students in the Ph.D. program without a master's degree must apply and may be admitted into a master's program first, and then upon satisfactorily completing the master's degree, they would be eligible to apply for the Ph.D. program. This route

assumes an appropriate Bachelor's degree (see above).

*STEM = Science, Technology, Engineering or Math; MOT= Management of Technology. Please refer to both the General Admissions Information and the Ph.D. TM for detailed requirements. (<http://www.bridgeport.edu/admissions> and <http://www.bridgeport.edu/PhD-TM>)

Academic Requirements

The requirements for Ph.D. in TM students include the following:

The Ph.D. in TM is an interdisciplinary degree for which all Ph.D. students must take a common core of five (5) required courses and choose from elective courses from Area 1 (New Technology Venture Creation) and Area 2 (Current and Emerging Technologies – Technology Specializations). Each student can choose elective courses from three study options (see below and Appendix 1). A list and short description of core and elective courses by specialization is provided in Appendix 2.

- Focus on Area 1 – New Technology Venture Creation (e.g. Entrepreneurship and Corporate Venturing): Number of courses to be taken in Area 1 is three courses each from Area 1 and two courses each from Area 2 (in one of the Technology Specializations).

- Focus on Area 2 – Current and Emerging Technologies – (Technology Specializations) Number of courses to be taken in Area 2 is four from Area 2 from one of the following Technology Specialization areas and one from Area 1. The Technology Specialization areas focus on one of the following:

Bio-Tech and Bio-Medical Technology,
Systems and Processes

Information Analytics, Technology and
Decision Support Systems

Manufacturing, Supply Chain and Logistics
Technology, Systems and Processes

- Combination of Areas 1 and 2 – Number of courses to be taken is two each from Area 1 and three each from Area 2. In Area 2, the students must pick courses from one Technology Specialization area for depth coverage.

TIME AND LOAD GUIDELINES

The program will admit both full and part-time students. For all students, the program must be completed within a maximum of seven calendar years. If a student requires more than seven years, he/she must file a letter of appeal requesting a time extension to the Dean of the SOE and the Ph.D. program coordinator. A Ph.D. student (part-time or full-time) is expected to devote the necessary time to courses and research in order to make satisfactory progress toward the degree. Satisfactory progress includes active personal participation in the research and teaching environment of the School of Engineering. The student advisor and dissertation committee should advise the student as to his/her progress in the program. Full time students are required to register for at least nine credit hours each semester while part-time students are required to register for at least six credit hours per academic year (spring and fall semesters).

TIME LIMITS

All requirements for the doctoral degree must be completed within the seven-year period (accumulating to 21 Fall, Spring, and Summer semesters) following admission to the doctoral program.

TIME LIMIT EXTENSION REQUEST

Under compelling circumstances beyond the student's control, a student may petition for a one-semester extension of the seven-year time limit. If the one-semester extension is recommended by the Ph.D. in Technology Management Program Director and approved by the Dean, the student has one additional semester to complete work on the dissertation. If the student fails to complete all degree requirements within the time for the student's doctoral program or within a one-semester extension approved as noted above, the student will be dismissed from the doctoral program. To complete the doctoral degree, the student must reapply for admission. Policies do not provide the option to revalidate courses completed more than six years prior to the date of admission. A readmitted student therefore would be able to apply to the new admission only those courses approved by the department and Graduate School and complete within the prior six years (accumulating to 18 Fall, Spring, and Summer semesters).

Technology Management Ph.D. Program

COURSE WORK

A Ph.D. candidate must complete at least 30 credit hours of course work, not including the dissertation, beyond the Masters degree. Upper level undergraduate remedial courses cannot be used to fulfill the coursework requirement. The Ph.D. dissertation will require a minimum of 15 credit hours to complete.

Courses must be selected as follows:

Five Core Courses of three credit hours each.

Additional five (three credit hours each) courses in specific areas**

A one-semester teaching practicum requirement (no credit hours).

COURSE GRADE POINT AVERAGE

A Ph.D. student is expected to maintain a G.P.A. of 3.0. If the cumulative G.P.A. falls below 3.0, the student is automatically placed on probation. (Note:grades for transferred courses are not included in the calculation of the University of Bridgeport GPA). Continued probationary status for two semesters will lead to dismissal of the student from the program.

*Students admitted to the Ph.D. program should have a business or management degree as well as an engineering, computer science or technology degree. To be more specific, a student should have either: (1) An undergraduate Engineering or Technology (STEM = Science, Technology, Engineering and Mathematics category) degree and an MBA or MS in Technology Management or Engineering Management or Management of Technology (MOT) or equivalent graduate degree; or (2) an undergraduate Business or Management or TM or MOT or equivalent degree and a Master's degree in Engineering, Technology or STEM.

** Area 1 – New Technology Venture Creation and Area 2 – Select Current & Emerging Technologies (see Ph.D. Program Structure for additional requirements and areas) No grade less than C is acceptable towards course work requirements.

PH.D. PROGRAM DIRECTOR

The Dean of the School of Engineering will appoint a director for the doctoral program. The director supervises the implementation of the Ph.D. program. S/he is responsible for coordinating administrative functions related to the Ph.D. program including admission,

marketing, appointment of advisors, and formation of dissertation committees, for each doctoral student. In addition, the director is charged with preparing and administering the preliminary and the comprehensive examinations. The director is also responsible for recommending courses for students who may not have the proper prerequisites for certain courses.

ADVISOR

Each Ph.D. candidate, in her/his first semester, will be assigned a program advisor by the Ph.D. program director. The advisor will develop a program of study for the student and monitor his/her progress until a dissertation committee is formed for the student. A dissertation advisor will be appointed for each student after he/she passes the comprehensive exams and perform all subsequent advising. The program advisor and dissertation advisor may be the same person or two different people. A student is required to form a dissertation committee in conjunction with the Ph.D. program director after finishing the core Ph.D. courses (and passing the candidacy examinations), so that a better understanding of the various topics and research interests in the department will, by then, have been achieved.

COMPREHENSIVE EXAMINATION

One of the major checkpoints in the Ph.D. program that assesses the breadth and depth of the student's academic accomplishment and progress is the candidacy examinations and oral dissertation proposal defense examination. The candidacy examinations will test the breadth and depth of knowledge in all aspects of Technology Management related to the body of knowledge required for the Ph.D. in Technology Management, including but not limited to, the core curriculum courses, and the courses in Areas 1 and 2. The candidacy examinations should be taken at the completion of all course work.

The Ph.D. Program Director will organize these candidacy examinations, which will be developed and graded by faculty. The outcome of this examination will be a fail or pass. A student can sit for this examination twice. A student who does not pass the candidacy examinations in two attempts will be dismissed from the program. A student may submit an appeal regarding the potential dismissal from the program.

DISSERTATION COMMITTEE AND ORAL DEFENSE OF PROPOSED DISSERTATION TOPIC IN A PUBLIC SEMINAR

After passing the required examinations and selecting a dissertation advisor (or having an advisor appointed), a student is required to define a problem of merit, carry out a literature search and prepare a course of action to solve the selected problem. The candidate is expected to produce a dissertation proposal, which must be orally defended in a public seminar. The Ph.D. director awards a Pass/Fail grade after consultation with the student's dissertation advisor and committee.

The Ph.D. Program Director, in consultation with the dissertation advisor, recommends a dissertation committee for the student. The dissertation committee contains at least three members in addition to the dissertation advisor. At least four members of the dissertation committee must be from a professorial rank within the School of Engineering and/or other schools. Additionally, an external examiner is appointed as well. The external examiner is one who is distinguished in the field of Technology Management. The Ph.D. Program Director and the Dean of the School of Engineering must approve the dissertation committee.

ADMISSION TO CANDIDACY

Every student enrolled in the Ph.D. in Technology Management degree program must take a candidacy examination administered by the program director and the graduate faculty. The candidacy exam aims at assessing the capability of the student conducting doctoral research based on evidence of critical thinking, problem solving, conducting original research and other measures viewed as essential functions of a successful doctoral student. When a student passes the candidacy examination and fulfills all other requirements, s/he will be admitted to Ph.D. candidacy.

PH.D. DISSERTATION

The student is expected to work on the accepted topic and original results. S/he must report the results in the form of a Ph.D. dissertation. The student is encouraged to document the intermediate results in the form of technical reports. S/he is also encouraged to publish these results as they are discovered,

Technology Management Ph.D. Program

in international professional literature, i.e. refereed conference proceedings and journals. Intermediate results can also be discussed in departmental seminars. The completed dissertation must be distributed to the dissertation committee members at least two weeks before the dissertation defense. The committee will read it and certify that the dissertation is a work of substantial merit and that it can be defended.

It is the responsibility of the student that the final draft of the dissertation addresses all legitimate concerns of the committee members.

DISSERTATION DEFENSE EXAMINATION

After securing approval from the dissertation committee members regarding the worthiness of the dissertation, a student will proceed with a request for the dissertation defense examination. The chair of the dissertation committee will chair the examination. The student will schedule a convenient time for a public defense. It is the responsibility of the student to find a time that is suitable to all the members of the dissertation committee, at least two weeks prior to the defense. At the end of the defense, the decision of the dissertation committee will be pass or fail. It is the responsibility of the dissertation advisor to see that the comments and the criticism of the audience are addressed adequately in the final version of the dissertation. Based on the recommendation of the dissertation committee, the Ph.D. in Technology Management Director and the Dean of the School of Engineering will recommend the Ph.D. degree, subject to the satisfaction of all other formal requirements.

SUMMARY OF MILESTONES

A summary of steps, not necessarily ordered, through which a student will proceed, is as follows:

- Admission to the Ph.D. program of Technology Management;
- Completing prerequisites, if needed;
- Completing the course work requirement for the Ph.D.;
- Passing the written comprehensive examination;
- Admission to 'Candidacy';
- Selection of a dissertation advisor;

- Writing a dissertation proposal and its oral defense;
- Formation of the dissertation committee;
- Approval of the dissertation by the dissertation committee;
- Successful completion of the dissertation defense;
- Submission of completed and approved dissertation to the School of Engineering;
- Graduation with a Ph.D. degree in Technology Management.

- Engineering Economics and Financial Engineering
- Information Analytics, Technology & Decision Support Systems **
- Manufacturing, Supply Chain and Logistics Technology, Systems and Processes**
(** Initial Technology Specializations to be offered at program start)

Summary & Short Course Descriptions

CORE COURSES FOR PH.D. TM STUDENTS

Number	Name	Credit Hours
TMPD 702	Exploration in Research Methodologies	3
TMPD 704	Research, Design, Data Analysis and Measurement	3
TMPD 706	Quantitative Methodologies	3
TCMG 620x	Strategic Management of Technology and Innovation (Proposed new course)	3
TCMG 645	Technology New Venture Creation	3
TMPD 694	Written Comprehensive Examinations	0
TMPD 698	Teaching Practicum	0
TMPD 699	Seminar (Oral Defense of Dissertation Proposal)	0
TMPD 710	Ph.D. Dissertation	Min. 15

ELECTIVE COURSES THAT CAN BE TAKEN BY PH.D. OR MS STUDENTS:

AREA 1: NEW TECHNOLOGY VENTURE CREATION

Number	Name	Credit Hours
TCMG 505 or MGMT 555	Global Program and Project Management	3
TCMG 506	Advanced Program and Project Management	3
TCMG 508 or MGMT 565	Foundations of Product Management	3
TCMG 512 or MGMT 590	Intellectual Property Management	3
TCMG 523 / MGMT 523	Leadership, Teams & Managing Change	3
TCMG 525	Finance and Accounting for Managers	3
TCMG 580x / MGMT 585x	New Product Commercialization	3
TCMG 595	Global Business/ Technology Capstone	3
TCMG 532 / MKTG 560	Global Market Management	3
TCMG 559 or MGMT 582	Small Business and Entrepreneurship	3
TCMG 559 or MGMT 560	Foundation of Business Process and Operations	3
Other courses to be approved by Advisor & Program Director		3

NEW TECHNOLOGY VENTURE CREATION

Select Elective Course Example

- Leadership, Teams & Managing Change
- New Product Development & Commercialization
- Small Business and Entrepreneurship
- Intellectual Property Management
- Project Management

SELECT CURRENT & EMERGING TECHNOLOGIES (TECHNOLOGY SPECIALIZATION)

- Biotech & Biomedical Technology, Systems & Processes**
- Environmental and Energy Technology, Systems and Processes

Technology Management Ph.D. Program

AREA 2 : BIO-TECHNOLOGY AND BIO-MEDICAL TECHNOLOGY, SYSTEMS AND PROCESSES

Number	Name	Credit Hours
BMEG/MEEG 508	Biomechanics	3
BMEG/ELEG 510	Medical Machines	3
BMEG/ELEG 513	Biomedical Image Processing	3
BMEG/TCMG 535	Foundations of Bio Tech Sciences and Management	3
BMEG/ELEG 547	Bio MEMS	3
BMEG/TCMG 555X	Biotechnology and Entrepreneurship	3
BMEG/ELEG 562	Nanofabrication with Soft Materials	3
BMEG/MEEG 563	Polymer Nanocomposites	3
BMEG 565	Biomedical Materials and Engineering	3
BMEG/MEEG 567X	Physiological Fluid Dynamics	3
BMEG 580	Tissue Engineering	3
CPSC 551	Advanced Database Design	3

Other courses to be approved by Advisor & Program Director

MEEG/TCMG 573 or MKTG 565	Supply Chain Management	3
MEEG/ TCMG 574	Principles of Logistics	3
MEEG 575	Manufacturing Strategy	3
MEEG/TCMG 577X	Lean Manufacturing	3
TCMG 578X	Six Sigma	3
TCMG 559 or MGMT 560	Foundation of Business Process and Operations Management	3

Other courses to be approved by Advisor & Program Director

AREA 2 : INFORMATION ANALYTICS, TECHNOLOGY AND DECISION SUPPORT SYSTEMS

Number	Name	Credit Hours
CPSC 546	Services Oriented Architecture	3
CPSC 551	Advanced Database Design	3
CPSC 556	Data Mining	3
CPSC 555	Web-based Application Development	3
CPSC 562	Information Assurance (Security)	3
CPSC/CPEG 571	Internet Computing	3
TCMG 520	Information Systems Development and Design	3
TCMG 533	Information Technology Strategy and Governance	3
TCMG/MEEG 540	Simulation and Modeling	3
TCMG 521 or ITKM 505	Information Systems and Knowledge Management	3
TCMG/CPSC 568X	Foundation of Information Analytics	3
TCMG 571 or MGMT 571	Foundations of Service Management Engineering	3
TCMG 549 or MGMT 548	Business Intelligence and Decision Support Systems	3

Other courses to be approved by Advisor & Program Director

AREA 2 : MANUFACTURING, SUPPLY CHAIN AND LOGISTICS TECHNOLOGY, SYSTEMS AND PROCESSES

Number	Name	Credit Hours
TCMG 524	Statistical Quality Control Techniques	3
TCMG/MEEG 530	Foundations of Manufacturing Management	3
TCMG 534 or MGMT 534	Strategic Sourcing and Vendor Management	3
MEEG 512x	Computational Fluid Dynamics	3
MEEG/ BMEG 567X	Physiological Fluid Dynamics	3
TCMG/ MEEG 572	Production Technology and Techniques	3

COLLEGE OF ENGINEERING, BUSINESS, AND EDUCATION

Ernest C. Trefz School of Business Programs

Accounting Bachelor of Science Degree

Mandeville Hall: 105C
 Telephone: (203) 576-6533
 Fax: (203) 576-4388

Curriculum and Program Requirements

The accounting curriculum provides an opportunity for students with varied interests to obtain a broad-based understanding of the role of accounting in the measurement and communication of financial and economic data. A number of interdisciplinary courses have been designed for those students wishing a maximum overview of multinational issues in accounting and taxation as well as for those students who intend to pursue more advanced studies in accounting. Accounting students who expect to take the Certified Public Accountant professional examinations should select elective courses with the approval of and in consultation with the Chair of the Accounting Department.

Learning Outcomes

LEARNING OBJECTIVES

- Students acquire the knowledge necessary for the understanding of business data and will master accounting concepts, principles, and theories.
- Students will develop technical skills necessary to measure, analyze, and interpret economic data.
- Students will understand internal accounting systems, controls, reports for decision making and will learn how to effectively communicate economic data.
- Students will study professional and regulatory requirements. Additionally, students will acquire the accounting foundation that enables them to pursue advanced study required for the successful completion of the CPA exam.
- Students will pursue internships.
- Students will have the opportunity to apply to the Volunteer Income Tax Assistance (VITA) program where they will gain hands-on, real world experience.

ASSESSMENT

Students are evaluated with exams, homework assignments, and oral presentations.

Students will be evaluated and benchmarked with a standardized accounting test. This will ensure their preparation for graduate study towards the CPA exam. Students' accounting knowledge and skills also will be tested with a program specific exam when they begin and finish their accounting program.

Students must earn a grade of "C" or higher in each Accounting major course.

Summary of Requirements

CREDITS

General Education Requirements	33
Business Program Requirements	60
Accounting Electives	18
Free Electives	9
	120
Eng 101 Academic Writing	3
Math Math Cored	3
Sci Natural Sciences Core	6
	6
	6
	3
Caps 390 Capstone Seminar	3
Sosc Social Sciences Core	6
	30

PROGRAM REQUIREMENTS

Acct 101 Principles of Accounting I	3
Acct 103 Managerial/Cost Accounting	3
Acct 300 Intermediate Accounting I	3
Acct 301 Intermediate Accounting II	3
Blaw 251 Business Law I	3
Buad 101 Introduction to Business	3
Buad 102 Business Communications	3
Buad 382 Senior Project/Internship	3
Cais 101 Statistics	3
Cais 191 Computer Concepts	3
Cais 201 Introduction to Business Analytics	3
Econ 201 Principles of Economics - Macro	3
Econ 202 Principles of Economics - Micro	3
Engl 202 Professional Writing	3
Fin 209 Managerial Finance	3
Mgmt 200 Workforce Dynamics	3
Mgmt 301 Operations Management	3
Mgmt 320 Business Planning	3
Mgmt 350 Business Policy and Strategy	3
Mktg 205 Principles of Marketing	3
	60

ACCOUNTING ELECTIVES

Acct 210 Financial Accounting Systems	3
Acct 302 Advanced Accounting	3
Acct 311 Taxation of Individuals	3
Acct 312 Taxation of Entities	3

Acct 327 Multinational Accounting	3
Acct 335 Auditing	3
	18

FREE ELECTIVES

May be selected from any University courses with the permission of the advisor.

Free Electives	9
	9

GENERAL EDUCATION REQUIREMENTS

ENG 101 Academic Writing	3
FYS 101 First Year Seminar	3
MATH Math Core	3
SCI Natural Sciences Core	6
HUM Humanities Core	6
FA Fine Arts Core	3
CAPS 390 Capstone Seminar	3
SOSC Social Sciences Core	6
	33

Total Semester Hours **120**

Suggested Program

FIRST SEMESTER

BUAD 101 Introduction to Business	3
ENGL 101 Academic Writing	3
MATH Math Core	3
FYS 101 First Year Seminar	3
	3

SECOND SEMESTER

ACCT 101 Principles of Accounting I	3
ENGL 202 Professional Writing	3
CAIS 191 Computer Concepts	3
SCI Natural Sciences Core	3
BUAD 102 Business Communications	3

THIRD SEMESTER

MGMT 200 Work Force Dynamics	3
ECON 201 Principles of Econ - Macro	3
SOSC Social Science Core	3
SCI Natural Science Core	3
ACCT 103 Managerial Accounting	3

FOURTH SEMESTER

ECON 202 Principles of Econ - Micro	3
CAIS 101 Statistics	3
MKTG 205 Principles of Marketing	3
FIN 209 Managerial Finance	3
SOSC Social Science Core	3

FIFTH SEMESTER

Acct 327 Multinational Accounting	3
Acct 335 Auditing	3
	18

Accounting Bachelor of Science Degree

MGMT 301	Major Elective	3
HUM	Operations Management	3
	Humanities Core	3
	Free Elective	6

SIXTH SEMESTER

BLAW 251	Business Law I	3
CAIS 201	Introduction to Business Analytics	3
MGMT 320	Business Planning	3
HUM	Humanities Core	3

Free Elective 3

SEVENTH SEMESTER

BUAD 382	Senior Project/Internship	3
	Major Elective	9
	Free Elective	3

EIGHTH SEMESTER

MGMT 350	Business Policy and Strategy	3
CAPS 390	Capstone Seminar	3
	Major Electives	6
	Free Elective	3

Total Semester Hours 120

INTERNSHIP/CO-OP

Students are encouraged to pursue additional co-op experience as described on page 35 using the BUAD-200 course up to three times (one credit each). These credits will be used as part of the student's degree program.

The Accelerated Degree Completion Program

Wahlstrom Library, Garden Level

Telephone: (203) 576-4800

The Accelerated Degree Completion program was an early pioneer in degree-completion programs for adult learners, beginning in 1988. This program gives adults age 23 or over the opportunity to complete a bachelor's degree at a convenient time and place. Courses are mostly offered in five- and eight-week terms – one meeting per week – nine sessions per year in various formats; evening, weekend and online.

PROGRAMS OF STUDY

The degree completion program offers Business degrees in:

- A.A. in Business Administration
- A.A. in General Studies
- B.S. in Business Administration
- B.S. in General Studies Business concentration

Business Administration Associate in Arts Degree

Mandeville Hall
Telephone: (203) 576-4687
Fax: (203) 576-4388

Curriculum and Program Requirements

The Associate in Arts in Business Administration provides options for students who want only two years of college study and students who are not certain about their degree objectives.

This degree program requires that all freshman and sophomore core business courses and business prerequisites, as well as University core requirements, be completed with an average grade of "C" or better.

Two-year business study at the University of Bridgeport provides many advantages not usually available to community college or two-year college students.

All the resources of the university are available to two-year students. This includes planning/placement services and all of the social, sports and extracurricular activities of the campus.

Students receive all the guidance and advising of a small, private two-year college, while completing their studies in the environment of a major university.

Learning Outcomes

LEARNING OBJECTIVES

Students 1) acquire basic general business knowledge; 2) develop practical technical skills necessary for initially pursuing a junior level entry position; 3) learn how to communicate with others in their organization; and 4) understand the role of business in the larger society.

ASSESSMENT

Students will be evaluated with a program specific exam related to the basic business courses at the beginning and end of their two-years of undergraduate study. Students are evaluated by course level exams, assignments, projects and oral presentations.

Summary of Requirements

CREDITS				
General Education Requirements		33	ECON 202	Principles of Economics - Micro
Program Requirements		27	MGMT 302	Multicultural Management
		60	SCI	Natural Science Core
			SOSC	Social Science Core
				Free Elective
			Total Semester Hours	60

PROGRAM REQUIREMENTS		
ACCT 101	Principles of Accounting I	3
ACCT 102	Principles of Accounting II	3
CAIS 101	Statistics	3
CAIS 102	Applied Statistics	3
CAIS 191	Computer Concepts	3
LAW 251	Business Law I	3
MGMT 302	Multicultural Management	3
	Free Electives	6
		27

GENERAL EDUCATION REQUIREMENTS		
ECON 201	Principles of Economics - Macro	3
ECON 202	Principles of Economics - Micro	3
ENGL 101	Academic Writing	3
ENGL 202	Professional Writing	3
FA	Fine Arts Core	3
FYS 101	First Year Seminar	3
MATH	Math Core	3
SCI	Natural Sciences Core	6
SOSC	Social Sciences Core	6
		33
	Total Semester Hours	60

Suggested Program

FIRST SEMESTER		
ACCT 101	Principles of Accounting I	3
CAIS 191	Computer Concepts	3
ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3
MATH	Math Core	3

SECOND SEMESTER		
ACCT 102	Principles of Accounting II	3
CAIS 101	Statistics	3
ENGL 202	Professional Writing	3
SCI	Natural Science Core	3
	Free Elective	3

THIRD SEMESTER		
CAIS 102	Applied Statistics	3
ECON 201	Principles of Economics - Macro	3
FA	Fine Arts Core	3
LAW 251	Business Law I	3
SOSC	Social Sciences Core	3

FOURTH SEMESTER		
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ECON 202	Principles of Economics - Micro	3
MGMT 302	Multicultural Management	3
SCI	Natural Science Core	3
SOSC	Social Science Core	3
	Free Elective	3
	Total Semester Hours	60

INTERNSHIP/CO-OP

Students are encouraged to pursue additional co-op experience as described on page 35 using the BUAD-200 course up to three times (one credit each). These credits will be used as part of the student's degree program.

Note: An online (or hybrid) program is available for this major, and follows the same requirements.

Business Administration Bachelor of Science Degree

Mandeville Hall: 105C
 Telephone: (203) 576-6533
 Fax: (203) 576-4388

Curriculum and Program Requirements

The Business Administration major provides the maximum flexibility in course selection for a student to fulfill both personal and professional goals. Upon completion of University and College core requirements the student may pursue a myriad of unique combinations of study to satisfy either a general or specific purpose. This includes combining study from two or three of the major disciplines of study within the college including those disciplines not listed in this catalog such as Economics and Management Information Systems, and combinations with other colleges at the University. In all cases the student's study program must be approved by the student's faculty advisor.

Students interested in adding a Teacher Certification to a program in Business Administration can do so. A brief description of the teacher certification requirements appears elsewhere in this catalog under the School of Education section.

The Bachelor of Science degree in Business Administration permits a student, upon completion of the core business requirements and prerequisites applicable to all business degrees, to create a unique combination of courses in business or other academic disciplines.

All business courses listed under other majors as well as courses in other academic disciplines such as political economy, psychology or sociology, may be chosen as elements of this major.

Learning Outcomes

LEARNING OBJECTIVES

- Students demonstrate well-developed knowledge in all - and mastery in at least one - of the basic business disciplines (accounting, business analytics & intelligence, economics, finance, International Business, management, marketing, and sport management).
- Students demonstrate effective oral and

written communication skills in a business context in both formal and informal settings.

- Students will develop professional skills and an awareness of diversity across the spectrum of differences and consider these differences in the analysis of global realities and challenges.
- Students will demonstrate proficiency with technology, analytical techniques for decision-making and will understand the impact and opportunities offered by information technology in business.
- Students exhibit knowledge of current issues using creativity and innovation.
- Students identify, evaluate, and recommend possible courses of action related to the application of ethical business principles and will develop a personal ethical decision-making framework.

Students will be critical thinkers and problem-solvers thereby enabling them to successfully lead in a dynamic global environment

ASSESSMENT

Students will be evaluated with a program specific exam related to the basic business courses at the beginning and end of their undergraduate study. Students are evaluated by course level exams, assignments, projects and oral presentations.

Summary of Requirements

CREDITS

General Education Requirements	33
Business Administration Program Requirements	72
Free Electives	15
120	

PROGRAM REQUIREMENTS

ACCT 101 Principles of Accounting I	3
ACCT 103 Managerial/Cost Accounting	3
BLAW 251 Business Law I	3
BUAD 101 Introduction to Business	3
BUAD 102 Business Communications	3
BUAD 382 Senior Project/Internship	3
CAIS 101 Statistics	3
CAIS 191 Computer Concepts	3
CAIS 201 Introduction to CAIS	3
ECON 201 Principles of Economics- Macro	3
ECON 202 Principles of Economics - Micro	3
ENGL 202 Professional Writing	3
FIN 209 Managerial Finance	3
MGMT 200 Work Force Dynamics	3

MGMT 301 Operations Management	3
MGMT 320 Business Planning	3
MGMT 350 Business Policy and Strategy	3
MKTG 205 Principles of Marketing	3
Business Electives*	18
	72

GENERAL EDUCATION REQUIREMENTS

ENGL 101 Academic Writing	3
FYS 101 First Year Seminar	3
MATH Math Core	3
SCI Natural Sciences Core	6
HUM Humanities Core	6
FA Fine Arts Core	3
CAPS 390 Capstone Seminar	3
SOSC Social Sciences Core	6
	33

FREE ELECTIVES

May be selected from any University courses with the permission of the advisor.

Free Electives	15
	15

Total Semester Hours **120**

*The 18 credits (6 courses) of business electives may be selected from Accounting, Economics, Finance, International Business, Management and Industrial Relations, and Marketing.

Students must earn a grade of "C" or higher in each of the four business electives.

Free electives (15 credits) may be selected from any University courses with the permission of the advisor.

*Specific course requirements are described under each major description or course description section of this catalog.

Suggested Program

FIRST SEMESTER

BUAD 101 Introduction to Business	3
ENGL 101 Academic Writing	3
MATH Math Core	3
FYS 101 First Year Seminar	3
Fine Arts	3

SECOND SEMESTER

ACCT 101 Principles of Accounting I	3
ENGL 202 Professional Writing	3
CAIS 191 Computer Concepts	3
SCI Natural Sciences Core	3
BUAD 102 Business Communications	3

THIRD SEMESTER

Business Administration Bachelor of Science Degree

MGMT 200	Work Force Dynamics	3
ECON 202	Principles of Economics – Micro	3
SOSC	Social Science Core	3
SCI	Natural Science Core	3
ACCT 103	Managerial Accounting	3

FOURTH SEMESTER

ECON 201	Principles of Economics – Macro	3
CAIS 101	Statistics	3
MKTG 205	Principles of Marketing	3
FIN 209	Managerial Finance	3
SOSC	Social Science Core	3

FIFTH SEMESTER

	Major Elective	3
MGMT 301	Operations Management	3
HUM	Humanities Core	3
	Free Elective	6

SIXTH SEMESTER

BLAW 251	Business Law I	3
CAIS 201	Introduction to CAIS	3
MGMT 320	Business Planning	3
HUM	Humanities Core	3

SEVENTH SEMESTER

BUAD 382	Senior Project/Internship	3
	Major Elective	9
	Free Elective	3

EIGHTH SEMESTER

MGMT 350	Business Policy and Strategy	3
CAPS 390	Capstone Seminar	3
	Major Electives	6
	Free Elective	3

Total Semester Hours **120**

INTERNSHIP/CO-OP

Students are encouraged to pursue additional co-op experience as described on page 35 using the BUAD-200 course up to three times (one credit each). These credits will be used as part of the student's degree program.

Note: An online (or hybrid) program is available for this major, and follows the same requirements.

Healthcare Administration Concentration

The Healthcare Administration concentration of the Bachelor of Science in Business Administration online degree will help students manage the business side of healthcare. The program explores the different ways healthcare is delivered

and managed that include regulatory, technological, financial and administrative factors in the context of a rapid-changing healthcare industry.

The Healthcare Administration track will prepare graduates to:

- Demonstrate the knowledge of the fundamental and technical concepts of health care management and apply it to decision-making in managing within healthcare organizations.
- Demonstrate knowledge of the core disciplines of healthcare administration: healthcare organization and structure, healthcare finance, healthcare policy, and/or public health to enhance decision-making in managing the healthcare organizations.
- Use contemporary federal and state health-policies to analyze various healthcare issues.
- Demonstrate knowledge of the primary ethical values underlying the healthcare institutions and delivery (i.e., respect for persons, beneficence, and justice, in managerial decision-making).
- Apply basic statistical, quantitative, and economic concepts and tools to support analysis and decision-making.

HEALTHCARE ADMINISTRATION PROGRAM REQUIREMENTS (18 CREDITS)

HSCI 250 Introduction to Community and Public Health
 HLAD 333 Management of Health Care Information Systems
 HLAD 331 Law and Ethics in Health Care
 HLAD 334 Health Care Financial Management
 HLAD 332 Health Care Organization & Administration
 HLAD 335 Health Care Strategic Management

Summary of Requirements

CREDITS

General Education Requirements	33
Business Administration Healthcare Administration Program Requirements	72
Free Electives	15
	120

PROGRAM REQUIREMENTS

ACCT 101 Financial Accounting	3
ACCT 103 Managerial /Cost Accounting	3
BLAW 251 Business Law I	3
BUAD 101 Intro to Business	3

BUAD 102	Business Communications	3
ECON 201	Principles of ECON-Macro	3
ECON 202	Principles of ECON-Micro	3
ENGL 202	Professional Writing	3
CAIS 101	Statistics	3
CAIS 191	Computer Concepts	3
CAIS 201	Intro to Business Analytics	3
FIN 209	Managerial Finance	3
MGMT 200	Work Force Dynamics	3
MGMT 301	Operations Management	3
MGMT 320	Business Planning	3
MGMT 350	Business Policy & Strategy	3
MKTG 205	Principles of Marketing	3
BUAD 382	Internship (or 300 Level Business Courses) Health Care Courses	18
		72

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3
MATH	Math Core	3
SCI	Natural Sciences Core	6
HUM	Humanities Core	6
FA	Fine Arts Core	3
CAPS 390	Capstone Seminar	3
SOSC	Social Sciences Core	6
		33

FREE ELECTIVES

May be selected from any University courses with the permission of the advisor.	
Free Electives	15
	15

Total Semester Hours **120**

Finance Bachelor of Science Degree

Mandeville Hall
 Telephone: (203) 576-6533
 Fax: (203) 576-4388

Curriculum and Program Requirements

The Bachelor of Science in Finance provides an integrated view of the theoretical and practical aspects of finance for those who are preparing for careers in financial management, financial institutions, financial markets, law, government service, and related fields.

Essential skills in problem-solving are developed with an emphasis on wealth maximization. Financial problems are viewed from both their micro-financial and macro-financial aspects.

The Finance major includes the subject areas of corporate financial management, banking, and investments. The program provides an integrated view of the theoretical and practical aspects of Finance for those who are preparing for careers in financial management, financial institutions, financial markets, law, government service, and related fields.

Learning Outcomes

LEARNING OBJECTIVES

- Students will have a solid theoretical framework and knowledge of all core business disciplines including financial management.
- Students will have effective oral and written communication skills.
- Students will have the analytical ability to develop and utilize accounting data, financial data, and other information to solve complex and unstructured business problems.
- Students will be critical thinkers and problem solvers, with the ability to find evidence and viewpoints for finance-related issues and make rational assumptions, identify implications, and formulate conclusions.
- Students will understand the impact and the opportunities offered by information technology in finance-related disciplines and develop effective technology-use skills.
- Students will have a deep understanding

of concepts in finance and be comfortable using these concepts in practical applications.

- Students will be aware of the ethical dimensions in the discipline of finance and will develop a personal ethical decision-making framework.

ASSESSMENT

Financial concepts and technical and analytical skills are evaluated with exams, assignments, papers, cases, and projects. Students will be evaluated with a standardized finance test. Students' financial knowledge and skills also will be tested when they begin and finish the Finance program with a program specific exam.

Summary of Requirements

CREDITS

General Education Requirements	33
Finance Program Requirements	72
Free Electives	15
	120

FINANCE (B.S.)

GENERAL EDUCATION REQUIREMENTS

ENG 101	Academic Writing	3
MATH	Math Core	3
SCI	Natural Sciences Core	6
HUM	Humanities Core	6
FA	Fine Arts Core	3
CAPS 390	Capstone Seminar	3
SOSC	Social Sciences Core	6
		30

PROGRAM REQUIREMENTS

ACCT 101	Principles of Accounting I	3
ACCT 103	Managerial/Cost Accounting	3
BLAW 251	Business Law I	3
BUAD 101	Introduction to Business	3
BUAD 102	Business Communications	3
BUAD 382	Senior Project/Internship 3	3
CAIS 101	Statistics	3
CAIS 191	Computer Concepts	3
CAIS 201	Introduction to Business Analytics	3
ECON 201	Principles of Economics - Macro	3
ECON 202	Principles of Economics - Micro	3
ENGL 202	Professional Writing	3
FIN 209	Managerial Finance	3
MGMT 200	Work Force Dynamics	3
MGMT 301	Operations Management	3
HUM	Humanities Core	3
MGMT 320	Business Planning	3
MGMT 350	Business Policy and Strategy	3

MKTG 205	Principles of Marketing	3
		54

FINANCE ELECTIVES (SIX COURSES REQUIRED)

ECON 311	Managerial Economics	3
ECON 375	International Business Economics	3
ECON 376	Business Forecasting	3
FIN 321	Investment Principles	3
FIN 345	Management of Financial Institutions	3
FIN 365	Advanced Financial Management	3
FIN 368	Financial Derivatives & Risk Management	3
FIN 380	Multinational Finance	3
		18

FREE ELECTIVES

Total Semester Hours	120
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Suggested Program

FIRST SEMESTER

BUAD 101	Introduction to Business	3
ENGL 101	Academic Writing	3
MATH	Math Core	3
FYS 101	First Year Seminar	3
	Fine Arts	3

SECOND SEMESTER

ACCT 101	Principles of Accounting I	3
ENGL 202	Professional Writing	3
CAIS 191	Computer Concepts	3
SCI	Natural Sciences Core	3
BUAD 102	Business Communications	3

THIRD SEMESTER

MGMT 200	Work Force Dynamics	3
ECON 201	Principles of Econ - Macro	3
SOSC	Social Science Core	3
SCI	Natural Science Core	3
ACCT 103	Managerial Accounting	3

FOURTH SEMESTER

ECON 202	Principles of Econ - Micro	3
CAIS 101	Statistics	3
MKTG 205	Principles of Marketing	3
FIN 209	Managerial Finance	3
SOSC	Social Science Core	3

FIFTH SEMESTER

	Major Elective	3
MGMT 301	Operations Management	3
HUM	Humanities Core	3
	Free Elective	6

SIXTH SEMESTER

Finance Bachelor of Science Degree

BLAW 251	Business Law I	3
CAIS 201	Introduction to Business Analytics	3
MGMT 320	Business Planning	3
HUM	Humanities Core	3
	Free Elective	3

SEVENTH SEMESTER

BUAD 382	Senior Project/Internship	3
	Major Elective	9
	Free Elective	3

EIGHTH SEMESTER

MGMT 350	Business Policy and Strategy	3
CAPS 390	Capstone Seminar	3
	Major Electives	6
	Free Elective	3

Total Semester Hours 120

INTERNSHIP/CO-OP

Students are encouraged to pursue additional co-op experience as described on page 35 using the BUAD-200 course up to three times (one credit each). These credits will be used as part of the student's degree program.

General Studies Bachelor of Science Degree

Mandeville Hall
Telephone: (203) 576-4168

Program Description

The Bachelor of Science degree in General Studies is for the student who wishes great flexibility in pursuing college work as well as for the student with well defined goals. The candidate for the B.S. Program will "custom-make" his or her course of study, which may include interdisciplinary work that does not fit well into conventional degree programs. Planning and revision of the programs will be done with a faculty advisor. Many graduates holding this degree have been accepted for advanced work by other institutions. However, since graduate school admissions policies vary greatly depending upon the program and institution, students contemplating graduate study should inform themselves of such requirements.

Learning Outcomes

By completing the program in General Studies, students will: 1) be able to communicate effectively in writing so that one may advance professionally and apply to graduate programs; 2) be able to comprehend, analyze, and interpret texts in a variety of disciplines; 3) be able to present orally one's own thoughts and plans; 4) be able to recognize a problem and devise a plan of action to solve it; 5) be able to show mastery of several disciplines within an academic area of concentration; and 6) demonstrate an ethical mindset and exercise professional responsibility in a global context.

Degree Requirements

1. A minimum of 120 hours with minimum cumulative quality point ratio of 2.00.
2. The student must have an area of concentration with a minimum of 30 semester hours (no maximum), in one of the following areas: Business Studies; Humanities; Natural Science/Mathematics; Science, Engineering, or Computer Related Fields; and Social Sciences. Students may also elect a second area of concentration. A grade of "C" or above is required in all courses used to fulfill this requirement. No more than four 100 level courses can

- be counted in an area of concentration.
3. At least half of the semester hours to be counted in the area of concentration must be completed at the University of Bridgeport.
 4. Students may not take core courses or courses counting in an area of concentration or a minor on a pass/fail basis. The University policy on pass/fail courses limits this option to a maximum of six courses (two courses per semester) during a student's academic career, for free electives only.
 5. General Studies majors may include one or more minors in their programs. Courses used to fulfill requirements for a minor may not be counted in an area of concentration.

Total Semester Hours _____ **120**

Note: An online (or hybrid) program is available for this major, and follows the same requirements.

GENERAL STUDIES, BACHELOR OF SCIENCE DEGREE

Summary of Requirements

PROGRAM REQUIREMENT _____

Approved Area of Concentration for the B.S. within Divisions. A minimum of 30 semester hours is required in one of the following categories (see item 2 under degree requirements):

BUSINESS STUDIES

All Accounting
All Business Law
All Computer Applications and Information Systems
All Economics
All Finance
All International Business
All Management
All Marketing

GENERAL EDUCATION REQUIREMENTS _____

ENGL 101	Academic Writing	3
MATH Core or	Demonstrated Math Competency	3
FYS 101	First Year Seminar	3
FA	Fine Arts Core	3
HUM	Humanities Core	6
SCI	Natural Sciences Core	6
SOSC	Social Sciences Core	6
CAPS C390	Capstone Seminar	3
	Liberal Arts Requirements	9
		42

International Business Bachelor of Science Degree

NOTE: THIS PROGRAM IS NO LONGER
ACCEPTING NEW STUDENTS OR
INTERNAL TRANSFERS
Mandeville Hall
Telephone: (203) 576-6533
Fax: (203) 576-4388

Curriculum and Program Requirements

The Bachelor of Science in International Business prepares students for assuming a managerial position in any American or foreign multinational firm, developing one's own business abroad, or working for international governments and agencies. Since this major attracts many students from abroad, it provides students with an opportunity to develop multicultural awareness and international contacts. This major is recommended for those students who expect to travel abroad or live in foreign environments. Students in this major are required to achieve proficiency in at least one foreign language before completion of the degree.

Learning Outcomes

LEARNING OBJECTIVES

- Students will acquire knowledge on the legal and regulatory environments for firms operating in the global market place.
- Students will communicate clearly and persuasively in oral and written structures in both formal and informal settings.
- Students will contribute within diverse sets of teams and build internal and external relationships that facilitate success in contemporary organizations via interpersonal and professional skills.
- Students will apply information literacy, proficiency with technology, and analytical techniques for decision-making.
- Students will address current issues and case studies using creativity and innovation.
- Students will act with integrity as an individual, and apply ethical theories to case solutions.

ASSESSMENT

Students' international business knowledge and skills will be tested when they begin and

finish the International Business program with a program specific exam. Alumni will be asked to complete follow-up questionnaires regarding their careers in international business.

Students must earn a grade of "C" or higher in each of the four International Business major electives.

Summary of Requirements

CREDITS

General Education Requirements	33
Business Program Requirements	72
Free Electives	15
	120

GENERAL EDUCATION REQUIREMENTS

ENG 101 Academic Writing	3
MATH Math Core	3
SCI Natural Sciences Core	6
HUM Humanities Core	6
FA Fine Arts Core	3
CAPS 390 Capstone Seminar	3
SOSC Social Sciences Core	6
	30

PROGRAM REQUIREMENTS

ACCT 101 Principles of Accounting I	3
ACCT 103 Managerial/Cost Accounting	3
BLAW 251 Business Law I	3
BUAD 101 Introduction to Business	3
BUAD 102 Business Communications	3
BUAD 382 Senior Project/Internship 3	3
CAIS 101 Statistics	3
CAIS 191 Computer Concepts	3
CAIS 201 Introduction to Business Analytics	3
ECON 201 Principles of Economics - Macro	3
ECON 202 Principles of Economics - Micro	3
ENGL 202 Professional Writing	3
FIN 209 Managerial Finance	3
MGMT 200 Work Force Dynamics	3
MGMT 301 Operations Management	3
MGMT 320 Business Planning	3
MGMT 350 Business Policy and Strategy	3
MKTG 205 Principles of Marketing	3
	54

INTERNATIONAL BUSINESS ELECTIVES (SIX COURSES REQUIRED)

IBU 325 Import/Export	3
IBU 360 Business and International Law	3
IBU 362 International Sales (Commercial) Transactions	3
IBU 363 Settlement of International Business Disputes	3
IBU 366 International Business and Customs	

Unions
or
Other approved courses in a foreign language, study abroad, history, or political science.

3

18

FREE ELECTIVES

15

Total Semester Hours

120

Suggested Program

FIRST SEMESTER

BUAD 101	Introduction to Business	3
ENGL 101	Academic Writing	3
MATH	Math Core	3
FYS 101	First Year Seminar	3
	Fine Arts	3

SECOND SEMESTER

ACCT 101	Principles of Accounting I	3
ENGL 202	Professional Writing	3
CAIS 191	Computer Concepts	3
SCI	Natural Sciences Core	3
BUAD 102	Business Communications	3

THIRD SEMESTER

MGMT 200	Work Force Dynamics	3
ECON 201	Principles of Economics - Macro	3
SOSC	Social Science Core	3
SCI	Natural Science Core	3
ACCT 103	Managerial Accounting	3

FOURTH SEMESTER

ECON 202	Principles of Economics - Micro	3
CAIS 101	Statistics	3
MKTG 205	Principles of Marketing	3
FIN 209	Managerial Finance	3
SOSC	Social Science Core	3

FIFTH SEMESTER

MGMT 301	Operations Management	3
HUM	Humanities Core	3
	Free Elective	6

SIXTH SEMESTER

BLAW 251	Business Law I	3
CAIS 201	Introduction to Business Analytics	3
MGMT 320	Business Planning	3
HUM	Humanities Core	3
	Free Elective	3

International Business Bachelor of Science Degree

SEVENTH SEMESTER

BUAD 382	Senior Project/Internship	3
	Major Elective	9
	Free Elective	3

EIGHTH SEMESTER

MGMT 350	Business Policy and Strategy	3
CAPS 390	Capstone Seminar	3
	Major Electives	6
	Free Elective	3

Total Semester Hours _____ **120**

INTERNSHIP/CO-OP

Students are encouraged to pursue additional co-op experience as described on page 35 using the BUAD-200 course up to three times (one credit each). These credits will be used as part of the student's degree program.

Management and Industrial Relations Bachelor of Science Degree

NOTE: THIS PROGRAM IS NO LONGER
ACCEPTING NEW STUDENTS OR
INTERNAL TRANSFERS
Mandeville Hall
Telephone: (203) 576-6533
Fax: (203) 576-4388

Curriculum and Program Requirements

The Management and Industrial Relations major prepares graduates to enter the workplace as supervisors, operations managers, human resources technicians and start-up entrepreneurs. The program prepares students to take advantage of opportunities in the global job market. Research, special projects and independent study permit each student to fit the major to their personal interests, values and aspirations. Operational issues as well as broad management policy concerns are emphasized, assuring relevance of studies to a student's starting position and readiness for growth in any organization, domestic or global.

The program offers flexibility in the selection of electives to fulfill the major requirements. After completion of required courses, the student may elect courses in small business and entrepreneurship, advanced operations management, human resource skills and programs, labor law and conflict management, to complete the major.

Students following an entrepreneurial studies track, for instance, would take courses in small business, advanced operations management, and labor law; and complete an independent study focused on preparation of a comprehensive business plan for a prospective business start-up.

Students should consult with the designated undergraduate advisor to plan the selection and sequencing of courses to satisfy the major requirements.

Learning Outcomes

LEARNING OBJECTIVES

Students will: 1) learn how to work effectively with people in an organization; 2) learn the management principles necessary to pursue entry level positions; 3) learn how to effectively communicate; and 4) develop an

understanding of organizational processes.

ASSESSMENT

Students will be evaluated and benchmarked with a standardized management specific test. Students' management knowledge and skills will be tested when they begin and finish their Management program with a program specific exam.

Student must earn a grade of "C" or higher in each of the four Management major electives.

Summary of Requirements

CREDITS

General Education Requirements	33
Management Program Requirements	72
Free Electives	15
	120

GENERAL EDUCATION REQUIREMENTS

ENGL 101 Academic Writing	3
FYS 101 First Year Seminar	3
MATH Math Core	3
SCI Natural Sciences Core	6
HUM Humanities Core	6
FA Fine Arts Core	3
CAPS 390 Capstone Seminar	3
SOSC Social Sciences Core	6
	33

PROGRAM REQUIREMENTS

ACCT 101 Principles of Accounting I	3
ACCT 103 Managerial/Cost Accounting	3
BLAW 251 Business Law I	3
BUAD 101 Introduction to Business	3
BUAD 102 Business Communications	3
BUAD 382 Senior Project/Internship	3
CAIS 101 Statistics	3
CAIS 191 Computer Concepts	3
CAIS 201 Introduction to CAIS	3
ECON 201 Principles of Econ - Macro	3
ECON 202 Principles of Econ - Micro	3
ENGL 202 Professional Writing	3
FIN 209 Managerial Finance	3
MGMT 200 Workforce Dynamics	3
MGMT 301 Operations Management	3
MGMT 320 Business Planning	3
MGMT 350 Business Policy and Strategy	3
MKTG 205 Principles of Marketing	3
Management Electives*	18
	72

MANAGEMENT ELECTIVES

MGMT 302 Multicultural Management	3
MGMT 305 HR Issues in Management	3

MGMT 311 Hum. Res. Mgmt Programs and Skills	3
MGMT 330 Leadership Lessons from the Movies	3
MGMT 340 Conflict and Negotiation	3
MGMT 342 Labor Law and Arbitration	3
Or other approved 300 level MGMT course	18
Select six courses	

FREE ELECTIVES

Total Semester Hours	120
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Suggested Program

FIRST SEMESTER

BUAD 101 Introduction to Business	3
ENGL 101 Academic Writing	3
MATH Math Core	3
FYS 101 First Year Seminar	3
Fine Arts	3

SECOND SEMESTER

ACCT 101 Principles of Accounting I	3
ENGL 202 Professional Writing	3
CAIS 191 Computer Concepts	3
SCI Natural Sciences Core	3
BUAD 102 Business Communications	3

THIRD SEMESTER

MGMT 200 Work Force Dynamics	3
ECON 201 Principles of Economics - Macro	3
SOSC Social Science Core	3
SCI Natural Science Core	3
ACCT 103 Managerial Accounting	3

FOURTH SEMESTER

ECON 202 Principles of Economics - Micro	3
CAIS 101 Statistics	3
MKTG 205 Principles of Marketing	3
FIN 209 Managerial Finance	3
SOSC Social Science Core	3

FIFTH SEMESTER

Major Elective	3
MGMT 301 Operations Management	3
HUM Humanities Core	3
Free Elective	6

SIXTH SEMESTER

BLAW 251 Business Law I	3
CAIS 201 Introduction to CAIS	3
MGMT 320 Business Planning	3
HUM Humanities Core	3
Free Elective	3

SEVENTH SEMESTER

BUAD 382 Senior Project/Internship	3
Major Elective	9
Free Elective	3

Management and Industrial Relations Bachelor of Science Degree

EIGHTH SEMESTER

MGMT 350	Business Policy and Strategy	3
CAPS 390	Capstone Seminar	3
	Major Electives	6
	Free Elective	3
Total Semester Hours		120

INTERNSHIP/CO-OP

Students are encouraged to pursue additional co-op experience as described on page 35 using the BUAD-200 course up to three times (one credit each). These credits will be used as part of the student's degree program.

Note: A Project Management Certificate is also available to students in Business majors.

Marketing Bachelor of Science Degree

NOTE: THIS PROGRAM IS NO LONGER
ACCEPTING NEW STUDENTS OR
INTERNAL TRANSFERS

Mandeville Hall
Telephone: (203) 576-6533

Curriculum and Program Requirements

In order to prepare for the varied demands of a career in marketing, the Marketing major courses follow an interdisciplinary approach, stressing fundamentals of behavioral analysis, decision-making, research, and the application of managerial techniques to marketing problems. Graduates of this program find opportunities in general management, product management, advertising, sales, marketing research, public relations, retailing, wholesaling, and marketing services organizations.

Learning Outcomes

LEARNING OBJECTIVES

- Students will develop a solid understanding and mastery of marketing knowledge and skills to successfully market products, services, and ideas to customers.
- Students will communicate ideas clearly and persuasively in oral and written structures in both formal and informal settings.
- Students will contribute within diverse sets of teams and build internal and external relationships that facilitate success in contemporary organizations via interpersonal and professional skills.
- Students will apply information literacy, proficiency with technology, and analytical techniques for decision-making.
- Students will address current issues and case studies using creativity and innovation.
- Students will think critically and logically via integrating concepts across disciplines thereby enabling them to successfully lead in a dynamic global environment.

ASSESSMENT

Students will be evaluated and benchmarked with a standardized marketing test. Students' marketing knowledge and skills will be tested when they begin and finish the Marketing program with a program specific exam.

Students must earn a grade of "C" or higher in each of the four marketing major courses.

Summary of Requirements

CREDITS

General Education Requirements	33
Marketing Program Requirements	72
Free Electives	15
	120

GENERAL EDUCATION REQUIREMENTS

ENG 101	Academic Writing	3
MATH	Math Core	3
SCI	Natural Sciences Core	6
HUM	Humanities Core	6
FA	Fine Arts Core	3
CAPS 390	Capstone Seminar	3
SOSC	Social Sciences Core	6
		30

PROGRAM REQUIREMENTS

ACCT 101	Principles of Accounting I	3
ACCT 103	Managerial/Cost Accounting	3
BLAW 251	Business Law I	3
BUAD 101	Introduction to Business	3
BUAD 102	Business Communications	3
BUAD 382	Senior Project/Internship	3
CAIS 101	Statistics	3
CAIS 191	Computer Concepts	3
CAIS 201	Introduction to CAIS	3
ECON 201	Principles of Economics - Macro	3
ECON 202	Principles of Economics - Micro	3
ENGL 202	Professional Writing	3
FIN 209	Managerial Finance	3
MGMT 200	Work Force Dynamics	3
MGMT 301	Operations Management	3
MGMT 320	Business Planning	3
MGMT 350	Business Policy and Strategy	3
MKTG 205	Principles of Marketing	3
		54

MARKETING ELECTIVES (SIX COURSES REQUIRED)

MKTG 306	Consumer Behavior	3
MKTG 307	Integrated Marketing Communications	3
MKTG 308	Marketing Research	3
MKTG 309	Digital Marketing	3
MKTG 310	Service Marketing	3
MKTG 319	Advertising Management	3
MKTG 325	Sales Management	3
MKTG 339	Retailing Management	3
MKTG 342	Multinational Marketing	3
MKTG 348	Internet and Social Media	3
		18

FREE ELECTIVES

15

Total Semester Hours

120

Suggested Program

FIRST SEMESTER

BUAD 101	Introduction to Business	3
ENGL 101	Academic Writing	3
MATH	Math Core	3
FYS 101	First Year Seminar	3
	Fine Arts	3

SECOND SEMESTER

ACCT 101	Principles of Accounting I	3
ENGL 202	Professional Writing	3
CAIS 191	Computer Concepts	3
SCI	Natural Sciences Core	3
BUAD 102	Business Communications	3

THIRD SEMESTER

MGMT 200	Work Force Dynamics	3
ECON 201	Principles of Econ - Macro	3
SOSC	Social Science Core	3
SCI	Natural Science Core	3
ACCT 103	Managerial Accounting	3

FOURTH SEMESTER

ECON 202	Principles of Econ - Micro	3
CAIS 101	Statistics	3
MKTG 205	Principles of Marketing	3
FIN 209	Managerial Finance	3
SOSC	Social Science Core	3

FIFTH SEMESTER

	Major Elective	3
MGMT 301	Operations Management	3
HUM	Humanities Core	3
	Free Elective	6

SIXTH SEMESTER

BLAW 251	Business Law I	3
CAIS 201	Introduction to Business Analytics	3
MGMT 320	Business Planning	3
HUM	Humanities Core	3
	Free Elective	3

SEVENTH SEMESTER

BUAD 382	Senior Project/Internship	3
	Major Elective	9
	Free Elective	3

EIGHTH SEMESTER

MGMT 350	Business Policy and Strategy	3
CAPS 390	Capstone Seminar	3
	Major Electives	6
	Free Elective	3

Total Semester Hours **120**

Marketing Bachelor of Science Degree

INTERNSHIP/CO-OP

Students are encouraged to pursue additional co-op experience as described on page 35, using the BUAD-200 course up to three times (one credit each). These credits will be used as part of the student's degree program.

Sport Management Bachelor of Science Degree

Mandeville Hall
 Telephone: (203) 576-6533
 Fax: (203) 576-4388

Curriculum and Program Requirements

The BS in Sport Management prepares graduates for careers in athletics from athlete management, team branding, sports marketing, and more. A comprehensive curriculum includes legal, ethics, finance, event management, and psychology for the sports industry, as well as a business core with courses in accounting, marketing, and economics, that will prepare students for a rewarding career in the field of sports management. Students may also have the opportunity to intern within the university athletics department, providing an invaluable experience in a collegiate setting.

LEARNING OUTCOMES

Students will learn to:

1. Explain the application of cultural traditions, social values, and psychological engagement that shape the field of sport management.
2. Prepare research and interpret data to be used for Sports Marketing, Finances, and Operations.
3. Demonstrate knowledge of the concepts of management and leadership and describe the various skills, roles, and functions of sport managers.
4. Explain the concepts of ethics and moral behavior as they apply to sport management.
5. Apply essential marketing concepts to the Sports industry, understand the uniqueness of the sport product and unique aspects of sport consumer and sport product markets.
6. Apply and evaluate principles of interpersonal communication, mass communications, and public relations, particularly as they are related to sport organizations.

7. Explain the importance of budget and finance to sport-related industries and evaluate micro-and macro-economic principles as they related to the Sports industry.
8. Explain legal concepts within the sport workplace, understand basic risk management issues applied to the conduct of sport, and evaluate the role of sport governing bodies including their authorities, organizational structure, and functions.

These students learning objectives are in line with our institutional mission as well as the Commission on Sport Management Accreditation (COSMA) Common Professional Component (CPC). COSMA recommends that these CPC content areas are adequately addressed within an undergraduate sport management degree program.

* The BS degree in Sport Management does not have ACBSP accreditation.

ASSESSMENT

Students' Sport Management knowledge and skills will be tested when they begin and finish the Sport Management program.

Students must earn a grade of "C" or higher in each of the six Sport Management major electives.

Summary of Requirements

CREDITS

General Education Requirements	33
Business Program Requirements	54
Free Electives	15
Major Business Electives	18

120

GENERAL EDUCATION REQUIREMENTS

ENG 101	Academic Writing	3
MATH 102/3	Math Core	3
SCI	Natural Sciences Core	6
HUM	Humanities Core	6
FA	Fine Arts Core	3
CAPS 390	Capstone Seminar	3
SOSC	Social Science Core	6

30

PROGRAM REQUIREMENTS

ACCT 101	Principles of Accounting I	3
ACCT 103	Managerial/Cost Accounting	3
BLAW 251	Business Law I	3
BUAD 101	Introduction to Business	3

BUAD 102	Business Communications	3
BUAD 382	Senior Project/Internship	3
CAIS 101	Statistics	3
CAIS 191	Computer Concepts	3
CAIS 201	Intro to Business Analytics	3
ECON 201	Principles of Econ - Macro	3
ECON 202	Principles of Economics - Micro	3
ENGL 202	Adv. Comp. (for Business)	3
FIN 209	Managerial Finance	3
MGMT 200	Work Force Dynamics	3
MGMT 301	Operations Management	3
MGMT 320	Business Planning	3
MGMT 350	Business Policy and Strategy	3
MKTG 205	Principles of Marketing	3

54

SPORT MANAGEMENT ELECTIVES

(SIX COURSES REQUIRED)

SPMT 140	Intro. To Sport Management	3
SPMT 200	Ethics in Sport Management	3
SPMT 303	Legal Aspects of Sport Management	3
SPMT 301	Sport Event Management	3
SPMT 302	Sport Marketing and Promotion	3
PSCY 355	Sports Psychology	3

Other approved courses in the business, Sport Science, and/or Psychology Program.

18

FREE ELECTIVES _____ 15

Total Semester Hours _____ 120

Suggested Program

FIRST SEMESTER

BUAD 101	Introduction to Business	3
ENGL 101	Academic Writing	3
MATH 103	Math Core	3
FYS 101	First Year Seminar	3
Fine Arts	Fine Arts Core	3

SECOND SEMESTER

ACCT 101	Principles of Accounting I	3
ENGL 202	Advanced Composition (For Business)	3
CAIS 191	Computer Concepts	3
SCI	Natural Sciences Core	3
BUAD 102	Business Communications	3

THIRD SEMESTER

MGMT 200	Work Force Dynamics	3
ECON 201	Principles of Economics - Macro	3
SOSC	Social Science Core	3
SCI	Natural Science Core	3
ACCT 103	Managerial Accounting	3

FOURTH SEMESTER

ECON 202	Principles of Economics - Micro	3
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Sport Management Business Bachelor of Science Degree

CAIS 101	Statistics	3
MKTG 205	Principles of Marketing	3
FIN 209	Managerial Finance	3
SOSC	Social Science Core	3
FIFTH SEMESTER		
MGMT 301	Major Elective	3
HUM	Operations Management	3
	Humanities Core	3
	Free Electives	6
SIXTH SEMESTER		
BLAW 251	Business Law I	3
CAIS 201	Introduction to Business Analytics	3
MGMT 320	Business Planning	3
HUM	Humanities Core	3
	Free Elective	3
SEVENTH SEMESTER		
BUAD 382	Senior Project/Internship	3
	Major Elective	9
	Free Elective	3
EIGHTH SEMESTER		
MGMT 350	Business Policy and Strategy	3
CAPS 390	Capstone Seminar	3
	Major Electives	6
	Free Elective	3
Total Semester Hours	120	

eSports concentration

BS Sport Management with an eSports concentration is designed to prepare students for careers in esports administration and management with interscholastic, intercollegiate and professional esports organizations' esports event organizers, entrepreneurial esports ventures and more. Students will explore the financial, legal and ethical practices within eSports and the structure and business involved in eSports. This concentration also covers the technology behind video games and provides you with an overview of different hardware components used as well as software packages. You will deep dive into effective broadcasting strategies and the components of media used in eSports including streaming, writing strategies, play-by-play and production. Additionally, the concentration will critically examine the contemporary issues facing the industry of eSports and professional gaming.

ESPORT ELECTIVES

ESPT 220	Introduction to eSports	3
ESPT 305	Gaming Hardware and Software	3
ESPT 315	eSports Business	3
ESPT 320	eSports Broadcasting	3
ESPT 325	Contemporary Issues in eSports	3
		15

Analytics and Systems Master of Science Degree

Mandeville Hall, Room 304
Telephone: (203) 576-2390
Fax: (203) 576-4388

The UB MS in Analytics & Systems Value Proposition

The MS in Analytics & Systems (MS A&S) is a 30-credit graduate program designed to meet the needs of students whose career goals include integrating data, technology, and methods to provide insights for constructive decision-making. The program accomplishes its mission by developing student expertise in technical skill, solution architecture and delivery, analysis and management. Graduates of the MS A&S will be well-positioned to enter contemporary data-driven organizations. Students will learn both a breadth of knowledge of information systems and a depth of skills in modern analytical methods. Class-work involves both rigorous instruction and required projects to prepare graduates for the unique stresses of this fast-paced industry. A similar MBA program with a concentration in Analytics Intelligence is offered by our Ernest C. Trefz School of Business; this MS A&S is for students looking to focus more on analytics and systems specifically, rather than business management generally.

Positive program outcomes will be achieved through the knowledge and skills the students will acquire from a comprehensive curriculum design, instruction in an effective learning environment, opportunities for inquiry, and professional development. This program largely leverages our existing offerings. While more specific and analytical in nature, these learning outcomes are in line with our institutional mission, and our MBA program.

Program Characteristics

Although students with work experience will find maximum benefit from the MS A&S; no previous work experience is required. The curriculum is designed to recognize and accommodate substantial diversity in preparation and experience as well as the different goals and career expectations of students. For this reason, some students may be required to complete preparatory coursework to successfully graduate from the 30-credit MS A&S program. Flexible course delivery

enables students to proceed at their desired pace. Most students complete the MS A&S program in 18 to 24 months.

Learning Outcomes

Students will demonstrate

1. knowledge in - conducting data analysis to discern appropriate actions to solve business problems, - defining and applying all aspects of the information technology (IT) lifecycle from the lens of BI and analytics, and - defining and applying project management knowledge areas and process groups to real-world projects.
2. the ability to communicate ideas clearly and persuasively in oral and written structures in both formal and informal settings.
3. interpersonal and professional skills that enable them to contribute within diverse sets of teams and build internal and external relationships that facilitate success in contemporary organizations.
4. information literacy, proficiency with technology, and analytical techniques for decision-making.
5. creativity and innovation when addressing current issues and case studies.
6. integrity in their actions, as well as an understanding of ethical theories, such as triple bottom line and corporate social responsibility.
7. critical and logical thinking that integrates concepts across disciplines enabling them to successfully lead in a dynamic global environment.

Technical

- Demonstrating an understanding of concepts learned throughout this graduate program
- Describing the business drivers and critical success factors for effective analytics and systems project and program delivery
- Using research, tools and techniques for complex analytical solutions that capture, consolidate and present information for meaningful insights

Human

- Communicating complicated information at a professional level clearly and concisely
- Understanding how to manage all aspects of the data capture, delivery and analysis

process

- Demonstrating initiative, discipline, and follow-through on assignments and projects
- Facilitating meaningful dialogue related to class topics

Conceptual

- Evaluating the advantages and disadvantages of analytics and systems solution designs, tools and visualization options
- Analyzing trends within data, facilitating their application, and sharing throughout the organization
- Applying the theories and techniques learned throughout this program with focus on analytics, information systems, sourcing, and vendor management.

Learning Outcomes will be assessed using the following measures:

- Research papers integrating market trends with class topics
- Exams measuring the effective acquisition of technical, systems design and delivery acumen
- “Hands on” tools and calculation assignments and projects covering key managerial aspects of analytics and systems design and delivery
- Student attendance and class participation
- A thesis or internship that demonstrates the ability to conduct investigations in the analytics and systems discipline.

Language Requirement

Conditionally accepted international students with an undergraduate degree that was taught in a language other than English are required to successfully complete additional language-related coursework and third-party assessment testing before joining the program.

Academic Preparation

Students with undergraduate preparation in a non-business field may be required to complete up to 6 credits of preparatory course-work. Students with a strong academic record (B or better in each case) from an accredited university, or significant relevant work experience, may be able to waive preparatory foundation courses. Accounting

Analytics and Systems Master of Science Degree

& Business Law (ACCT500) requires both managerial and financial accounting, as well as any course labelled business law that included contracts and tort law. Management & Marketing (MGMT500) requires organizational behavior, operations management, and marketing or any similarly named course that includes consumer behavior.

Preparatory Courses: Acquiring the Foundation for Success (up to 6 Credits)

This course provides the basic fundamentals that serve as a necessary foundation for the MS A&S program.

- ACCT500 Accounting & Business Law
- MGMT500 Management & Marketing

MS A&S Program Curriculum (30 credits)

CORE COURSES (6 CREDITS):

- ITKM505 Information Systems & Knowledge Management
MGMT555 Global Project Management

ANALYTICS INTELLIGENCES COURSES (9 CREDITS)

- ITKM548 Enterprise Intelligence and Decision Support Systems
ITKM549 Technical Concepts for Analytics Professionals
ITKM560 Foundations in Advanced Analytics

ANALYTICS APPLICATIONS COURSES (9 CREDITS)

- MKTG525 Data-Driven Marketing
FIN534 Behavioral Economics and Finance
MGMT534 Strategic Sourcing & Vendor Management

CAPSTONE COURSES (6 CREDITS)

- BUCP588 Research Methods
BUCP598 Thesis or BUCP599 Internship

Eligibility for Transfer Credits in the 30-credit upper-level

Program Courses

For students with graduate coursework from a regionally accredited university: No more than two (graduate) courses may be transferred into the MS A&S program. For students who have earned graduate credit from the Trefz School that is not included in a conferred degree: all applicable (graduate) three-credit courses may be transferred into the MS A&S program.

MS/MBA Dual-Degree Program

The Trefz School offers students the opportunity to acquire concurrent (students must not be eligible to graduate from either program until the final semester) graduate degrees within the Trefz School in which students may apply up to 15 credit hours to both programs. A minimum of 51 credit hours must be completed to satisfy the requirements of this dual-degree program.

The BUCP599 Capstone course is available for dual-degree students with the following modification; students may complete a three-credit internship and one one-credit in each program."

STEM Designation

The MS A&S is classified by ICE (U.S. Immigration and Customs Enforcement) as a STEM (Science, Technology, Engineering and Math) degree.

Progression/Sequence of Coursework

Preparatory coursework must be taken in the first semester. Students begin the formal MS A&S program by completing the eight Core courses (in any order). The Capstone courses should be taken in the final semester, or final two semesters.

Fulltime Status

Fulltime status requires at least three classes per semester (spring and fall) for international students and at least two classes per semester for domestic students. International students on an F1 or J1 visa may take fewer than 9 credits only once during their graduate tenure (spring and fall semesters), which is only permitted in their final semester.

Grading Policy

A grade of C or better is required for credit toward graduation in all preparatory and program coursework. Students are expected to maintain a semester GPA of 3.0 or better throughout their studies. Those students who earn a semester GPA below 3.0 will be placed on probation and must comply with the associated formal process to successfully maintain proper status.

Requirements for Graduation

To qualify for the award of the degree of Master of Science in Analytics and Systems, a student must fulfill the following minimum requirements:

1. Admitted to candidacy for the degree in the School of Business.
2. Satisfactorily complete all academic requirements with a cumulative grade point average grade of "B" (CGPA = 3.0) or better.
3. File an application for the award of the degree at the Registrar's Office on or before the date published in the University Calendar.
4. Complete all academic requirements within five (5) years from the date of first registration, unless a petition for extension is granted. Extensions are granted only for compelling reasons.

Business Administration Master of Business Administration Degree

Mandeville Hall
Telephone: (203) 576-4647

The UB MBA Value Proposition

The Master of Business Administration (MBA) is a valuable education for aspiring and practicing managers in any industry or field of endeavor. The graduate program provides early to mid-career professionals with the breadth and depth of theoretical and practical knowledge and skills that are necessary for effective leadership in an increasingly international and dynamic environment. Our innovative, interdisciplinary, and interactive MBA experience emphasizes leadership, teamwork, analytical thinking, business and management competencies, and communication to give you a competitive edge for success.

Program Characteristics

Although students with work experience will find maximum benefit from the MBA; no previous work experience is required. The curriculum is designed to recognize and accommodate substantial diversity in preparation and experience as well as the different goals and career expectations of students. For this reason, some students may be required to complete preparatory coursework to successfully graduate from the 36-credit MBA program. Flexible course delivery enables students to proceed at their desired pace. Most students complete the MBA program in 18 to 24 months.

Learning Outcomes

Students will demonstrate

- knowledge in all - and proficiency in at least one of - the basic business disciplines (accounting, economics, entrepreneurship, finance, human resources, information systems, leadership, management, and marketing).
- the ability to communicate ideas clearly and concisely in oral and written structures, and in formal and informal settings.
- interpersonal and professional skills that enable them to contribute within diverse sets of teams and build internal and external relationships that facilitate success in contemporary organizations.

- information literacy, proficiency with technology, and analytical techniques for decision-making.
- critical and logical thinking that integrates concepts across disciplines with creativity and integrity enabling them to successfully lead in a dynamic global environment.

mentals across the business disciplines that serve as a necessary foundation for the MBA program.

- ACCT500 Accounting & Business Law
- MGMT500 Management & Marketing

MBA Program Curriculum: (total of 36 credits)

- Three Components: Core, Concentration, and Capstone

CORE COURSES (18 CREDITS)

In the six Core courses you will apply the theory from the Foundation coursework through cases and real-world exercises.

- ACCT505 Managerial & Cost Accounting
- FIN505 Advanced Financial Management
- ITKM505 Information Systems & Knowledge Management
- MGMT505 Organizational Behavior
- MGMT555 Global Project Management
- MKTG505 Marketing & Branding

CONCENTRATION COURSES (9 CREDITS)

Because many careers require specialized and in-depth knowledge and skills in specific business areas, the program provides students with the opportunity to complete three courses of in-depth study in an area of their choice. Students can choose from seven concentrations.

- Accounting
- Analytics Intelligence
- Finance
- Health Care Management
- Human Resources Management
- Management
- Marketing

CAPSTONE COURSES (9 CREDITS)

The Capstone experience provides the final integration of student learning across the

Academic Preparation

Students with undergraduate preparation in a non-business field may be required to complete up to 6 credits of preparatory coursework. Students with a strong academic record (B or better in each case) from an accredited university, or significant relevant work experience, may be able to waive preparatory foundation courses. Accounting & Business Law (ACCT500) requires both managerial and financial accounting, as well as any course labelled business law that included contracts and tort law. Management & Marketing (MGMT500) requires organizational behavior, operations management, and marketing or any similarly named course that includes consumer behavior.

Preparatory Courses: Acquiring the Foundation for Success (6 Credits)

This coursework provides the basic funda-

Business Administration Master of Business Administration Degree

disciplines and the application of concepts learned to practical and competitive situations.

Capstone (9 credits)

- Integration (required)
 - o BUCP597 Strategy & Policy
- Practicum (select one)
 - o MGMT582 Business Planning
 - o BUCP589 Cases in Ethics, Innovation, & Leadership
 - o BUCP588 Research Methods
- Experiential (select one)
 - o MGMT582 Business Planning
 - o BUCP589 Cases in Ethics, Innovation, & Leadership
 - o BUCP598 Thesis (requires GLDP501: advisor assigned by discipline)
 - o BUCP599 Internship

ELIGIBILITY FOR TRANSFER CREDITS IN THE 36-CREDIT UPPER-LEVEL PROGRAM COURSES

For students who have earned graduate credit from a regionally accredited university that is not included in a conferred degree: No more than two (graduate) three-credit courses may be transferred into the MBA program. For students who have earned graduate credit from the Trefz School that is not included in a conferred degree: all applicable (graduate) three-credit courses may be transferred into the MBA program.

MBA/MS Dual-Degree Program

The Trefz School offers students the opportunity to acquire concurrent (students must not be eligible to graduate from either program until the final semester) graduate degrees within the Trefz School in which students may apply up to 15 credit hours to both programs. A minimum of 51 credit hours must be completed to satisfy the requirements of this dual-degree program.

Multiple MBA Concentrations

Students may gain additional concentrations by successfully completing three courses in any of the eight concentrations (courses may not be counted twice toward concentrations). Students may receive a double con-

centration in their original concentration by taking three additional advanced courses in the discipline.

MBA/Engineering Partnership

In an arrangement, with the School of Engineering, approved Engineering courses offered by the College of Engineering are available for students in the MBA degree. Specific courses for this study are selected with - and approved by - the student's advisor.

Progression/Sequence of Coursework

Preparatory coursework is the first step: Students start their studies by completing all necessary Preparatory courses. Once all the Preparatory courses have been completed, students may enter the formal MBA program. In some cases, students may take a combination of Preparatory and Core courses during their transition into the Program, but students should not take a Preparatory and advanced class in the same discipline at the same time (e.g. ITKM500 and ITKM505).

Students begin the formal MBA program by completing the six Core courses (in any order). The three Capstone courses should be taken in the final semester, or final two semesters, and must only be taken once all Core courses have been successfully completed (not concurrently).

Fulltime Status

Fulltime status requires at least three classes per semester (spring and fall) for international students and at least two classes per semester for domestic students. International students on an F1 or J1 visa may take fewer than 9 credits only once during their graduate tenure (spring and fall semesters), which is only permitted in their final semester.

Grading Policy

A grade of C or better is required for credit toward graduation in all preparatory and program coursework. Students are expected to maintain a semester GPA of 3.0 or better throughout their studies. Those students who earn a semester GPA below 3.0 will be placed on probation and must comply with the associated formal process to successfully maintain proper status.

Requirements for Graduation

To qualify for the award of the degree of Master of Business Administration, a student must fulfill the following minimum requirements:

1. Admitted to candidacy for the degree in the School of Business.
2. Satisfactorily complete all academic requirements with a cumulative grade point average grade of "B" (CGPA = 3.0) or better.
3. File an application for the award of the degree at the Registrar's Office on or before the date published in the University Calendar.
4. Complete all academic requirements within five (5) years from the date of first registration, unless a petition for extension is granted. Extensions are granted only for compelling reasons.

Finance Master of Science Degree

Mandeville Hall
Telephone: (203) 576-4805

The UB MS in Finance Value Proposition

The Master of Science in (MSF) is a 30-credit graduate program designed to meet the needs of a distinct type of professional in the finance industry. The MSF develops the ability of students whose career goals include specialist, technical, and management roles in financial enterprises. The program accomplishes its mission by developing student expertise in financial instruments, financial technology, financial analysis and financial management. Positive program outcomes will be achieved through the knowledge and skills the students will acquire from a comprehensive curriculum design, instruction in an effective learning environment, opportunities for inquiry, and professional development. This program largely leverages our existing offerings.

Students learn concepts in risk, finance, investments, and analytics that provide the basis for careers in finance. Students also develop the technical and quantitative skills needed to pursue a variety of careers in the finance industry. While more specific and analytical in nature, these learning outcomes are in line with our institutional mission, and our MBA program.

Students will learn how to evaluate and price a financial opportunity. They will learn how to gauge the appropriate level of risk to discount future projections. They will learn how to compare across investment opportunities at a given time and how to allocate among them in an optimal way. They will learn how to create useful tools for answering financial questions so that reports could be generated automatically and progress can be tracked. They will learn how to both assess and manage risk. Most importantly and most generally, they will learn how to solve financial problems with finely honed problem-solving skills via analytical capabilities and data-driven decision-making.

Program Characteristics

Although students with work experience will find maximum benefit from the MSF, no previous work experience is required. The curriculum is designed to recognize and accommodate substantial diversity in preparation and experience as well as the different goals and career expectations of students. For this reason, some students may be required to complete preparatory coursework to successfully graduate from the 30-credit MSF program. Flexible course delivery enables students to proceed at their desired pace. Most students complete the MSF program in 18 to 24 months.

Learning Outcomes

Students will demonstrate

1. knowledge in – evaluating and pricing financial opportunities, gauging the appropriate level of risk to discount future projections, comparing investment opportunities and allocating among them in an optimal way, creating useful tools for answering financial questions so that reports are generated automatically and progress is tracked, assessing and managing risk, analyzing and solving financial problems with finely honed decision making and problem solving skills.
2. the ability to communicate ideas clearly and persuasively in oral and written structures in both formal and informal settings.
3. interpersonal and professional skills that enable them to contribute within diverse sets of teams and build internal and external relationships that facilitate success in contemporary organizations.
4. information literacy, proficiency with technology, and analytical techniques for decision-making.
5. creativity and innovation when addressing current issues and case studies.
6. integrity in their actions, as well as an understanding of ethical theories, such as triple bottom line and corporate social responsibility.
7. critical and logical thinking that integrates concepts across disciplines enabling them to successfully lead in a dynamic global environment.

LEARNING OUTCOMES WILL BE ASSESSED USING THE FOLLOWING MEASURES:

- participation in classroom activities addressing current financial events,
- preparing case studies,
- creating one-off back tests of financial hypotheses,
- performing simulations,
- developing reusable financial and risk management tools,
- performing due diligence research projects,
- writing 5-to-10-page papers on critical financial topics,
- presenting findings in a five-minute professional presentation,
- and one capstone exercise reflecting their accumulated knowledge and skills.

Language Requirement

Conditionally accepted international students with an undergraduate degree that was taught in a language other than English are required to successfully complete additional language-related coursework and third-party assessment testing before joining the program.

Academic Preparation

Students with undergraduate preparation in a non-business field may be required to complete up to 6 credits of preparatory course-work. Students with a strong academic record (B or better in each case) from an accredited university, or significant relevant work experience, may be able to waive preparatory foundation courses. Accounting & Business Law (ACCT500) requires both managerial and financial accounting, as well as any course labelled business law that included contracts and tort law. Management & Marketing (MGMT500) requires organizational behavior, operations management, and marketing or any similarly named course that includes consumer behavior.

Finance Master of Science Degree

Preparatory Courses: Acquiring the Foundation for Success (up to 6 Credits)

This coursework provides the basic fundamentals across the business disciplines that serve as a necessary foundation for the MSF program.

- ACCT500 Accounting & Business Law
- MGMT500 Management & Marketing

MSF Program Curriculum: (30 credits total - all courses are three credits)

CORE COURSES (24 CREDITS)

- | | |
|----------|--|
| FIN 505: | Advanced Financial Management & Policy |
| FIN 520: | Investment Analysis |
| FIN 525: | International Financial Management |
| FIN 534: | Behavioral Economics and Algorithmic Finance |
| FIN 540: | Financial Analysis & Modeling |
| FIN 545: | Financial Derivatives & Risk Management |
| ITKM505: | Information Systems & Knowledge Management |
| ITKM560: | Foundations in Advanced Analytics |

CAPSTONE COURSES (6 CREDITS)

- BUCP588 Research Methods
BUCP598 Thesis or BUCP599 Internship

Eligibility for Transfer Credits in the 30-credit upper-level Program Courses

For students with graduate coursework from a regionally accredited university: No more than two (graduate) courses may be transferred into the MSF program. For students who have earned graduate credit from the Trefz School that is not included in a conferred degree: all applicable (graduate) three-credit courses may be transferred into the MSF program.

MS/MBA Dual-Degree Program

The Trefz School offers students the opportu-

nity to acquire concurrent (students must not be eligible to graduate from either program until the final semester) graduate degrees within the Trefz School in which students may apply up to 15 credit hours to both programs. A minimum of 51 credit hours must be completed to satisfy the requirements of this dual-degree program.

STEM Designation

The MSF is classified by ICE (U.S. Immigration and Customs Enforcement) as a STEM (Science, Technology, Engineering and Math) degree.

2. Satisfactorily complete all academic requirements with a cumulative grade point average grade of "B" (CGPA = 3.0) or better.
3. File an application for the award of the degree at the Registrar's Office on or before the date published in the University Calendar.
4. Complete all academic requirements within five (5) years from the date of first registration, unless a petition for extension is granted. Extensions are granted only for compelling reasons.

Progression/Sequence of Coursework

Preparatory coursework is the first step. In some cases, students may take a combination of Preparatory and Core courses during their transition into the Program. Students begin the formal MSF program by completing the eight Core courses (in any order). The Capstone courses should be taken in the final semester, or final two semesters.

Fulltime Status

Fulltime status requires at least three classes per semester (spring and fall) for international students and at least two classes per semester for domestic students. International students on an F1 or J1 visa may take fewer than 9 credits only once during their graduate tenure (spring and fall semesters), which is only permitted in their final semester.

Grading Policy

A grade of C or better is required for credit toward graduation in all preparatory and program coursework. Students are expected to maintain a semester GPA of 3.0 or better throughout their studies. Those students who earn a semester GPA below 3.0 will be placed on probation and must comply with the associated formal process to successfully maintain proper status.

Requirements for Graduation

To qualify for the award of the degree of Master of Science in Finance, a student must fulfill the following minimum requirements:

1. Admitted to candidacy for the degree in the School of Business.

COLLEGE OF ENGINEERING, BUSINESS, AND EDUCATION

School of Education Programs

Education Master of Science in Elementary or Secondary Degrees, Sixth Year Certificates of Advanced Studies, and Certification Areas

Carlson Hall
Telephone: (203) 576-4764

This degree program provides advanced study in content and content pedagogy for persons interested in careers in education, and/or certification in the State of Connecticut to teach on the elementary, or secondary levels.

Intern Program

Carlson Hall
Telephone: (203) 576-4219

The Graduate School of Education provides an internship option for the following students: (1) those seeking a Master's degree or 6th Year Certificate of Advanced Studies and teacher certification; (2) those already certified and seeking a Master's degree or Sixth Year Certificate of Advanced Studies, or (3) those seeking a Master's degree only for work in nonpublic American schools, schools in another country, or in other educational settings. This internship is designed to integrate field experience with graduate course work. During the internship students earn thirty-three tuition remission credits.

Master's Degree Program

Master of Science in Elementary and Secondary Education

(Connecticut Teacher Certification)

This program provides educators with the opportunities for in-depth study of subject content, techniques and materials appropriate to contemporary classrooms within a structured framework of field concentration and professional development. Emphasis is placed on selected areas of concentration in content and content pedagogy and professional course work for the development of individual clinical competencies.

Individuals seeking Connecticut certification must take courses required for their license in a Master's Planned Program of Study. This program consists of foundation courses, subject content courses, professional courses, field experiences, and residency teaching.

The following certification tracks are avail-

able: Elementary content area courses; Secondary and Middle Level Academic Subjects: Biology, Physics, General Science, Chemistry, Earth Science, English, Mathematics, History and Social Studies, Business Education, and Music (K-12).

Teacher Preparation Programs

Candidates who seek certification to teach in Connecticut must follow a Planned Program of Study that results in a Master's Degree and a recommendation by the State Certification Officer at the University for an Initial Educator Certificate in the State of Connecticut.

Admissions into the Master's Degree (Certification Track Programs)

Students seeking certification must apply to the program of their choice and must meet the following requirements PRIOR to admission into a Certification Track Program in Elementary, Secondary Academic Subjects, or Music:

1. A Bachelor's Degree in a subject area major (not professional education) from a regionally accredited institution with thirty-nine credits in general education, including course work in English, Mathematics, Natural Science, Social Studies, and World Language or Fine Arts (Grades below a C are NOT accepted for this category).
2. Undergraduate GPA of at least a B.
3. A well-written essay, at least 350 words, describing the candidate's reasons for enrolling in the program and experience relevant to teaching and demonstrating the appropriate dispositions for becoming a teacher.
4. Two letters of recommendation from persons able to testify to the candidate's suitability as a prospective teacher and potential for graduate-level work.

Candidates seeking admission to the certification-track programs are expected to possess basic technology proficiencies, such as word processing, sending and receiving e-mail messages, using the Internet, and the University's web based platforms.

All candidates for Connecticut State Certi-

fication must meet the following additional requirements prior to recommendation for certification:

1. Completion of all required Planned Program course work
2. Completion of all General Education (undergraduate requirements)
3. PRAXIS II examinations, as well as any additional - state mandated assessments for specific certification areas
4. Demonstration of all state-required program competencies
5. Demonstration of the knowledge, skills, and dispositions for teaching in the program area, including successful completion of all performance assessments specific to the certification program.

Program Goals

The Teacher Preparation Program Goals coincide with the six domain goals of the Connecticut Common Core of Teaching and the national States' Common Core of Teaching. The Teacher Preparation program at the University of Bridgeport seeks to develop teachers who can accomplish all of the following: Understand and apply essential skills, central concepts, and tools of inquiry in their subject matter or field.

Promote student engagement, independence, and interdependence in learning by facilitating a positive learning community.

Plan and Implement instruction in order to engage students in rigorous and relevant learning and to promote their curiosity.

Use multiple measures to analyze student performance and to inform subsequent planning and instruction.

Maximize support for student learning by developing and demonstrating professionalism, collaboration with others, and leadership.

Education Master of Science in Elementary or Secondary Degrees, Sixth Year Certificates of Advanced Studies, and Certification Areas

Elementary Education, 1-6, Certification Track Program

Planned Program of Study

PRE-PROFESSIONAL REQUIREMENTS COURSEWORK

FOUNDATIONS OF EDUCATION – 9 credits (required)

EDUC 503	Diverse Students: Differentiated Instruction	3
EDUC 509	Psychological Foundations in Education	3
EDUC 564	Education of Students with Exceptionalities	3

PROFESSIONAL EDUCATIONAL REQUIREMENTS

CURRICULUM AND METHODS OF TEACHING METHODS AND MATERIALS – 6 credits (required)

(TWO OF THE FOLLOWING)

EDUC 441C	Pedagogical & Content Knowledge in Mathematics	2
and EDUC 442C	Pedagogical & Content Knowledge in Social Studies	2
and EDUC 443C	Pedagogical & Content Knowledge in Science	2

LITERACY – 9 credits (required)

EDUC 440C	Pedagogical & Content Knowledge in Language Arts	3
EDUC 573	Early Literacy Instruction	2
and EDUC 574	Developmental Reading in the Elementary School	3
EDMM 621	Foundations of Reading Content Review	1
EDMM 605	Content Review in Mathematics	1
EDMM 673	Content Review in Social Studies	1
EDMM 676	Content Review in Science	1

STATUTORY REQUIREMENTS – 1 credit (required)

EDUC 511	Statutory Requirements in Education	0
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FIELD EXPERIENCE/RESIDENCE TEACHING – 6 credits plus Supervised Residency Teaching

EDUC 450	Field Experience	6*
or EDUC 515	Internship	4*
and EDUC 548C	Directed/Student Teaching in the Elementary School	6
PRAXIS II Examinations (required)		
Connecticut Foundations of Reading Test (required)		

ADDITIONAL GRADUATE COURSES AND ELECTIVES

Additional Graduate Coursework (Required if noted)		
MATHEMATICS (Adviser approval is needed for this course.)		
EDUC 499 College Math for Teachers	2	
LITERACY AND ENGLISH LANGUAGE LEARNING		
EDUC 536C Children's Literature	3	
EDUC 570 Instruction for the English Language Learner	1	
UNITED STATES HISTORY		

HIST 400	U.S. History for Teachers	3	EDUC 575J	Reading and Writing in the Content Areas	3
EDUC 565	Effective Planning and Instruction	1			
EDUC 592	Technology Literacy for Educators	2			
FINAL DEGREE REQUIREMENT					
(Choose one; certification-track students must take PRAXIS II and Connecticut Foundations of Reading Test.)					
EXAMINATIONS (required for certification)					
PRAXIS II, Foundations of Reading Exam,					
Connecticut Foundations of Reading Test					
EDUC 566	Contemporary Educational Problems II	3			
EDUC 595	Thesis Research	3			
Total Number of Credits					
Master of Science degree is a minimum of 33 credits. (not including 6 credits for student teaching)					
OTHER REQUIREMENTS FOR STATE OF CONNECTICUT CERTIFICATION					
Additional Coursework for Certification (required if noted)					
EDUC 500	Research and Report Writing	3			
EDUC 570	Instruction for the English Language Learner	1			
HIST 300	U.S. History for Teachers	3			
EDUC 565	Effective Planning & Instruction	1			
FINAL DEGREE REQUIREMENT					
EXAMINATIONS (required for certification)					
PRAXIS II					
EDUC 566	Contemporary Educational Problems II	3			
or					
EDUC 595	Thesis Research	3			
EDUC 695	Advanced Thesis Research — Sixth Year	2-6			
Total Number of Credits					
Master of Science degree is a minimum of 33 credits. (not including 6 credits of student teaching)					
OTHER REQUIREMENTS FOR STATE OF CONNECTICUT CERTIFICATION					
Additional Coursework for Certification or Endorsement (required if noted)					
*EDUC 450 may be taken in 2 semesters (3 credits each) or one semester at 6 credits.					
Specific Subject Area Requirements for Secondary Certification					
Each student must have the appropriate undergraduate coursework for the certification area. Students are advised to check with their academic advisor for all undergraduate and graduate certification requirements.					
BIOLOGY, CHEMISTRY, EARTH SCIENCE, GENERAL SCIENCE, OR					
CONTENT LITERACY & LITERATURE – 3 credits (required)					

Education Master of Science in Elementary or Secondary Degrees, Sixth Year Certificates of Advanced Studies, and Certification Areas

PHYSICS

REQUIREMENTS

Undergraduate major in certification area or 30 credits plus nine credits in related subject(s) in certification area

EDUC 443J Methods/Materials, Teaching Science 3

Students need to complete all requirements on their Planned Programs of Study and pass all performance assessments.

ENGLISH

REQUIREMENTS

English major or 30 credits plus nine credits in related subject(s)

EDUC 440J Methods/Materials, Teaching Language Arts 3

EDUC 536J Adolescent Literature 3

EDMM 625 Teaching Writing in Classrooms 1

Students need to complete all requirements on their Planned Programs of Study and pass all performance assessments.

MATHEMATICS

REQUIREMENTS

Mathematics major or 30 credits plus nine credits in related subject(s)

EDUC 441J Methods/Materials, Teaching Mathematics 3

Students need to complete all requirements on their Planned Programs of Study and pass all performance assessments.

MATH CONTENT – 12 credits (required)

EDMM 600 Topics in Advanced Math 3
(MATH 414)

EDMM 603 Analysis I 3

EDMM 606 Analysis II 3

EDMM 604 Analysis III 3

HISTORY AND SOCIAL STUDIES

REQUIREMENTS

History major plus 18 credits in other social sciences; or major in Anthropology, Sociology, Political Science, Geology, Economics, plus 18 credits in history

EDUC 442J Methods/Materials, Teaching Social Studies 3

Students need to complete all requirements on their Planned Programs of Study and pass all performance assessments.

MUSIC EDUCATION, K-12, CERTIFICATION TRACK

Planned Program of Study

FOUNDATIONS OF EDUCATION REQUIREMENTS COURSEWORK

EDUC 503 Differentiated Instruction: Building on Student Diversity 3

HUMAN GROWTH AND DEVELOPMENT – 3 credits (required)

EDUC 509 Psychological Foundations in Education 3

*These course requirements may be met by taking an appropriate undergraduate course with a grade of at least a “B,” taken within the past five years.

EDUC 564 Education of Students with Exceptionalities 3

PROFESSIONAL EDUCATION REQUIREMENTS

Content Area Core:- 9 credits (required)

MSED 435 Designing Curriculum and Instruction in Music 3

MSED 543 Music in Elementary Schools 3

MSED 544 Music in Secondary Schools 3

Content Area Specialization: (8)

APM 400: Private Instruction (vocal/instr.) (1-2) 3

MSED 511: Conducting (3) 3

MSED 520: Group Instruction in Voice (3) 3

MSED 521: Group Instruction in Strings (3) 3

MSED 523: Group Instruction in Woodwinds (3) 3

MSED 526: Group Instruction in Percussion (3) 3

MSED 531: Lit. & Tech. for Choral Music (3) 3

MSED 532: Lit. & Tech. for Instr. Music (3) 3

MSED 541: Choral Practicum (1) 3

MSED 542: Instrumental Practicum (1) 3

MSED 545: Technology in Music Education (3) 3

MSED 546: Music in Early Childhood (3) 3

FIELD EXPERIENCE/STUDENT TEACHING – 4 credits plus Student Teaching

EDUC 450 Field Experience 6*

or EDUC 515 Internship 2

and EDUC 515 Internship 2

and MSED 590 Directed/Supervised Resident Teaching, Music 6

ADDITIONAL PROGRAM REQUIREMENTS STATUTORY REQUIREMENTS – 1 credit (required)

EDUC 511 Statutory Requirements 0

Content Literacy – 3 credits (required)

EDUC 575M Reading and Writing in the Content Areas 3

FINAL DEGREE REQUIREMENT EXAMINATIONS (required for certification)

PRAXIS II 3

EDUC 566 Contemporary Educational Problems II 3

EDUC 595

Thesis Research

3

Total Number of Credits

Master of Science degree is a minimum of 33 credits (not including 6 credits of student teaching)

OTHER REQUIREMENTS FOR STATE OF CONNECTICUT CERTIFICATION

Survey Course of United States History – 3 credits (required)

Additional Coursework for Certification or Endorsement (required if noted)

*EDUC 450 may be taken in 2 semesters (3 credits each) or one semester at 6 credits.

MASTER OF SCIENCE IN ELEMENTARY OR SECONDARY EDUCATION, CERTIFICATION TRACK PROGRAM IN REMEDIAL READING AND REMEDIAL LANGUAGE ARTS

This 33 credit Master of Science degree course of study program at either the Elementary or Secondary level provides extensive course work and experiences in working with students in the field of literacy and language arts, leading to the initial educator certification in Remedial Reading and Remedial Language Arts. An individual with an appropriate regionally accredited Bachelor's degree may apply for this program. Although the program focuses on literacy for grades 1-12, the candidates elect either an Elementary degree focus or a Secondary degree focus through their field experiences and research. This concentration focuses on working with students in a variety of instructional settings for the purpose of teaching literacy processes, for evaluating students in reading and language arts, and for developing and evaluating literacy programs. Students learn to create appropriate literacy instruction for learners experiencing difficulty in reading and language arts. Upon completion of the coursework, field experiences, and appropriate performance assessments, students may apply for the Connecticut initial educator certificate in Remedial Reading/Remedial Language Arts, 1-12.

Program Goals

The program goals in literacy are adapted from the International Reading Association Standards for Reading Professionals - Revised 2010. The goals in Literacy for the Remedial

Education Master of Science in Elementary or Secondary Degrees, Sixth Year Certificates of Advanced Studies, and Certification Areas

Reading and Remedial Language Arts Program are as follows:

Reading professionals understand the theoretical and evidence-based foundations of reading and writing processes and instruction.

Reading professionals use instructional approaches, materials, and an integrated, comprehensive, balanced curriculum to support learning in reading and writing.

Reading professionals use a variety of assessment tools and practices to plan and evaluate effective reading and writing instruction.

Reading professionals create and engage their students in literacy practices that develop awareness, understanding, respect, and a valuing of differences in our society.

Reading professionals create a literate environment that fosters reading and writing by integrating foundational knowledge, instructional practices, approaches and methods, curriculum materials, and the appropriate use of assessments.

Reading professionals recognize the importance of, demonstrate, and facilitate professional learning and leadership as a career-long effort and responsibility.

Admissions Criteria

A valid Connecticut teaching certificate (or proof of eligibility);

An appropriate regionally accredited Bachelor's degree;

At least two letters of recommendation from persons able to testify to your suitability as a prospective teacher and your potential for graduate-level work;

An essay demonstrating a command of the English language and setting out the reasons for wanting to enroll in the program and emphasizing experience relevant to teaching;

A successful team interview with faculty;

Completion of at least 30 school months of successful classroom teaching experience.

Connecticut's essential skills testing requirements: passing scores in the PRAXIS I exams in Reading, Writing, and Mathematics or an official essential skills test waiver currently meeting this requirement.

Planned Program of Study

PREREQUISITE REQUIREMENTS

Foundations of Education	3
Educational Psychology	3
Children's or Adolescent Literature	3
Special Education	3

PROFESSIONAL EDUCATION REQUIREMENTS

READING AND LANGUAGE ARTS – 8 credits (required)

EDUC 440C	Methods and Materials in Teaching Language Arts	3
or EDUC 440M/J	Methods and Materials in Teaching Language Arts	3
and EDUC 574	Developmental Reading in the Elementary School	3
and EDUC 575	Reading and Writing in the Content Area	3

DIAGNOSIS AND REMEDIATION OF READING AND LANGUAGE ARTS DIFFICULTIES – 3 credits (required)

EDUC 571	Diagnosis and Intervention of Reading and Language Arts Difficulties	3
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TESTS AND MEASUREMENTS – 3 credits (required)

EDUC 558	Evaluation of Instructional Outcomes	3
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CLINICAL PRACTICES IN READING

AND LANGUAGE ARTS – 7 credits (required)

EDUC 596	Field Experience in Reading and Language Arts	1
EDUC 597	Practicum in Reading and Language Arts	6

ADDITIONAL PROGRAM REQUIREMENTS

SECOND LANGUAGE LEARNING AND ACQUISITION – 1 credits (required)

EDUC 570	Instruction for the English Language Learner	1
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ADDITIONAL GRADUATE COURSEWORK (required if noted)

EDUC 500	Research and Report Writing	3
EDUC 596	Field Experience in Reading and Language Arts	1
EDUC 597	Practicum in Reading and Language Arts	6
EDUC 570	Instruction for the English Language Learner	3
EDUC 573	Early Literacy Instruction	2

FINAL DEGREE REQUIREMENT

(Choose one of the following:

EDUC 566	Contemporary Educational Problems II	3
EDUC 568	Studies in Literacy Research	1
or EDUC 595	Thesis Research	2-6

ADDITIONAL COURSEWORK FOR CERTIFICATION (required if Noted)

Total Number of Credits

M.S. Total Minimum: 33 credits

Students need to complete all requirements on their Planned Programs of Study and pass all performance assessments.

Professional Educator Development

MASTER OF SCIENCE IN ELEMENTARY OR SECONDARY EDUCATION/ CERTIFICATE OF ADVANCE STUDIES (CAS) IN ELEMENTARY OR SECONDARY EDUCATION

NOTE: THIS PROGRAM IS NO LONGER ACCEPTING NEW STUDENTS OR INTERNAL TRANSFERS

Carlson Hall
Telephone: (203) 576-4028
Fax: (203)-576-4200

This degree program provides advanced study for certified teachers and for persons interested in careers related to school-age students.

Professional Educator Development

This program is designed for students who are certified teachers or who wish to pursue a Master's degree in Elementary or Secondary Education (33 credits); or 6th year (30 credits) Certificate of Advanced Studies in Elementary or Secondary Education.

PROGRAM REQUIREMENTS

The Professional Educator Development Program combines a basic core with selected courses.

CORE COURSES

In the Research and Report Writing course (3 credits), students analyze their own school experiences and determine competencies they wish to achieve. In the Differentiated Instruction course (3 credits), methods for addressing the needs of students' diverse strengths, background, experiences, gender, linguistic, and learning styles will be presented. In the Teacher Leadership course (3 credits), methods to maximize students' learning potential, and provide students with quality learning experiences, alignment of standards, lessons and assessments. In the

Education Master of Science in Elementary or Secondary Degrees, Sixth Year Certificates of Advanced Studies, and Certification Areas

final core requirement, Contemporary Problems in Education (3 credits) students demonstrate those competencies in a clinical and a research setting.

ELECTIVE COURSE TOPICS

Courses are offered in the following topics for a total of 30 or 33 credits, with several courses available under each topic. For courses offered each semester, consult the course schedule. On ground, online and hybrid formats available. Depending on availability and course scheduling, candidates may choose from among the following (courses vary between one and three credits):

EDUC:	Course Description
450	Field Experience
515	Clinical Experience – Internship Program
EDMM:	Course Description
606	No room for Bullying
609	Small Group Instruction
610	Technology Integration
617	Development and Design of Blended Learning Instructional Modules
618	Technology Literacy
619	Web Quest in Interactive Classroom
620	Applications of English Grammar
623	Interactive Reading/Balanced Literacy
624	Literacy Lessons - CMT
626	Principles of Early Childhood Education
627	Developmentally Appropriate Classrooms
628	Family and Community Partnerships
632	Dynamics of Classroom Environment
633	Critically Reflecting on Practice
634	Conflict Resolution
641	Identifying & Teaching Academically Gifted
642	Differentiated Instruction
643	The Art of Teaching Boys & Girls Differently
644	Character Education
645	Student Centered Instruction
646	Reaching Difficult Students
654	Mastering the Interview Process
655	Positive Student/Teacher Relationships
669	Mysteries of the U.S - Historical
670	Instructing with Modern Media
671	Using Historical Fiction
672	Urban Education
679	Using STEM in the Classroom
687	Inquiry Learning Across Disciplines
688	Curriculum Writing and Revision
692	Teacher Leadership
693	School Law
694	A Practical Guide to CCT
699	Testing & Assessment Strategies in Education

Education M.S. Degree – Early Childhood Education Concentration

NOTE: THIS PROGRAM IS NO LONGER ACCEPTING NEW STUDENTS OR INTERNAL TRANSFERS

Designed for Flexibility – Online, On-Campus, or Hybrid/Blended

The M.S. degree with a concentration in Early Childhood Education is designed to promote quality early childhood education for all young children, birth through age twelve, and to improve professional practice in the early childhood community. This non-certification concentration offers coursework in various formats: online, on campus or hybrid/ blended courses.

Our planned program supports a comprehensive understanding of the diverse cognitive, cultural, developmental, and linguistic needs of the early childhood learner. Graduates will be able to work effectively with multicultural populations of young children in a variety of settings and provide instructional opportunities that are adapted to diverse learning styles. In addition, our graduates are trained to use developmentally appropriate practices in early childhood education to create healthy, respectful, nurturing, and challenging learning environments for all young children in their cultural contexts.

PROGRAM REQUIREMENTS

Education M.S. Degree (33 Credits) Early Childhood Concentration

EDMM 626	Principles of Early Childhood Education (ECE)	3 online
EDMM 657	Developmentally Appropriate ECE Classroom Environments	3 online
EDMM 628	Family and Community Partnerships within ECE	3 online
EDUC 560	Human Growth and Development	3 online
Total Core Courses		12

The remaining 21 credits will be individually selected with the assistance of the student's advisor.

Education Sixth Year Certificate of Advanced Study (CAS) in Elementary or Secondary Education Remedial Reading and Language Arts

Carlson Hall
Telephone: (203) 576-4201
Fax: (203) 576-4200

This 30 credit Sixth Year Certificate of Advanced Study (CAS) degree program at either the Elementary or Secondary level provides extensive course work and experiences in working with students in the field of literacy and language arts. An individual with an appropriate regionally accredited Master's degree may use the 6th Year CAS degree program to achieve teacher certification.

Although the program focuses on literacy for grades 1-12, the candidates elect either an Elementary degree focus or a Secondary degree focus through their field experiences and research. This concentration focuses on working with students in a variety of instructional settings for the purpose of teaching literacy processes, for evaluating students in reading and language arts, and for developing and evaluating literacy programs. Students learn to create appropriate literacy instruction for learners experiencing difficulty in reading and language arts. Upon completion of the coursework, field experiences, and appropriate performance assessments, students may apply for the Connecticut initial educator certificate in Remedial Reading/ Remedial Language Arts, 1-12.

Program Goals

The program goals in literacy are adapted from the international Reading Association Standards for reading Professionals - Revised 2010. The goals in Literacy for the Remedial Reading and Remedial Language Arts Program are as follows:

Reading professionals understand the theoretical and evidence-based foundations of reading and writing processes and instruction.

Reading professionals use instructional approaches, materials, and an integrated, comprehensive, balanced curriculum to support learning in reading and writing.

Reading professionals use a variety of assessment tools and practices to plan and evaluate effective reading and writing instruction.

Reading professionals create and engage their students in literacy practices that devel-

op awareness, understanding, respect, and a valuing of differences in our society.

Reading professionals create a literate environment that fosters reading and writing by integrating foundational knowledge, instructional practices, approaches and methods, curriculum materials, and the appropriate use of assessments.

Reading professionals recognize the importance of, demonstrate, and facilitate professional learning and leadership as a career-long effort and responsibility.

Admissions Criteria

A valid Connecticut teaching certificate (or proof of eligibility);

An appropriate regionally accredited Master's degree;

At least two letters of recommendation from persons able to testify to your suitability as a prospective teacher and your potential for graduate-level work;

An essay demonstrating a command of the English language and setting out the reasons for wanting to enroll in the program and emphasizing experience relevant to teaching;

A successful team interview with faculty;

Completion of at least 30 school months of successful classroom teaching experience.

Connecticut's essential skills testing requirements: passing scores in the PRAXIS I exams in Reading, Writing, and Mathematics or an official essential skills test waiver currently meeting this requirement.

In this program students gain extensive preparation in learning to teach students in reading and language arts; to work with learners experiencing difficulty in reading, writing, and literacy-related processes; to assess literacy development; and to develop and evaluate programs that improve literacy processes.

PREREQUISITE REQUIREMENTS* (9 CREDITS)

EDUCATIONAL PSYCHOLOGY – 3 credits (required)

EDUC 509 Psychological Foundations in Education 3

CHILDREN'S OR ADOLESCENT LITERATURE – 3 credits (required)

EDUC 536C Children's Literature 3
or EDUC 536J Adolescent Literature 3

SPECIAL EDUCATION – 3 credits (required)

EDUC 564 Education of the Exceptional Student 3

PROFESSIONAL EDUCATION REQUIREMENTS**

READING AND LANGUAGE ARTS - 9 CREDITS (REQUIRED)

EDUC 440C Methods and Materials in Teaching Language Arts 3

or EDUC 440M/J Methods and Materials in Teaching Language Arts 3

and EDUC 574 Developmental Reading in the Elementary School 3

and EDUC 575M/J Reading and Writing in the Content Areas 3

DIAGNOSIS AND REMEDIATION OF READING AND LANGUAGE ARTS DIFFICULTIES – 3 credits (required)

EDUC 571 Diagnosis and Intervention of Reading and Language Arts Difficulties 3

TESTS AND MEASUREMENTS – 3 credits (required)

EDUC 558 Evaluation of Instructional Outcomes 3

CLINICAL FIELD EXPERIENCES – 7 credits (required)

EDUC 596 Field Experience in Reading and Language Arts 1

EDUC 597 Practicum in Reading and Language Arts 6

ADDITIONAL PROGRAM REQUIREMENTS (4-12 CREDITS)

SECOND LANGUAGE LEARNING AND ACQUISITION (required as noted)

EDUC 570 Instruction for the English Language Learner 1

STATUTORY REQUIREMENTS (required as noted)

EDUC 511 Statutory Requirements in Education 0

ADDITIONAL GRADUATE COURSEWORK (required as noted)

EDUC 573 Early Literacy 2

FINAL DEGREE REQUIREMENT

(CHOOSE ONE OF THE FOLLOWING:)

INDEPENDENT STUDY

EDUC 668 Literacy Research Project 1
EDUC 669 Sixth Year Project 1-3

THESIS RESEARCH

EDUC 695 Advanced Thesis Research — Sixth Year 2-6

Credits for Certification 21

Students need to complete all requirements on their Planned Programs of study. Students seeking to complete the Sixth Year Degree must complete an additional 9 credits, inclusive of the Final Degree Requirement.

Total Number of Credits:

Sixth Year degree Total Minimum: 30 Credits

Education Sixth Year Certificate of Advanced Study (CAS) in Elementary or Secondary Education Remedial Reading and Language Arts

*With prior written adviser approval these courses may be met by taking undergraduate courses with a grade of a "B" or higher.

**These courses are required for the Sixth Year Certificate Program in Remedial Reading and Remedial Language Arts.

WATERBURY CENTER

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Waterbury, CT 06705
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E-mail: ubwaterbury@bridgeport.edu
Website: www.bridgeport.edu/about/locations/waterbury-center

The University of Bridgeport's Waterbury Campus is conveniently located off Interstate 84 from exit 25A on the Waterbury/Cheshire border and offers undergraduate, graduate, and post-graduate programs. The facility includes wireless technology-enhanced classrooms, SmartBoard Technology, networked computer lab, faculty and administrative offices, student resource room and free, convenient parking.

PROGRAMS OF STUDY AT THE WATERBURY CENTER

UNDERGRADUATE (SPS DEGREE COMPLETION PROGRAM):

- B.S. in General Studies (concentrations in Business or Social Sciences)
- B.S. in Human Services
- B.S. in Psychology

GRADUATE:

- M.S. in Education (part-time: Evening and Weekends)
- M.S. in Education Intern Program
- Sixth Year Education Program (General, Reading, and Administration)

Education Sixth Year Certificate of Advance Studies (CAS) in Reading and Language Arts Consultant Certification

Carlson Hall, Room 118
Telephone: (203) 576-4201
Fax: (203) 576-4200

The Reading and Language Arts Consultant is a Teacher Certification Program designed to prepare educators for leadership positions in elementary, middle, and secondary schools. The program prepares the student for the roles of a curriculum and instructional leader, including the following: organizing, supervising, and enhancing literacy programs; coordinating the instruction and assessment of students in reading and language arts; guiding, improving, and enriching reading and language arts instruction in all content areas; and collaborating with teachers, administrators, parents, and other literacy leaders.

Applicants must have completed an appropriate Master's degree, must have a valid teaching certificate (or be eligible for Connecticut certification) in elementary, middle, or secondary education; must have completed a minimum of thirty months of successful classroom teaching experience; and must have completed all state required tests, including the Connecticut Foundations of Reading Test. Upon the completion of the Planned Program with appropriate coursework, field experiences, performance assessments, and the demonstration of required certification competencies, a student may apply for the Reading and Language Arts Consultant certification.

Program Goals

The program goals in literacy are adapted from the international Reading Association Standards for reading Professionals - Revised 2010. The goals in Literacy for the Reading and Language Arts Consultant Program are as follows:

1. Reading professionals understand the theoretical and evidence-based foundations of reading and writing processes and instruction.
2. Reading professionals use instructional approaches, materials, and an integrated, comprehensive, balanced curriculum to support learning in reading and writing.

3. Reading professionals use a variety of assessment tools and practices to plan and evaluate effective reading and writing instruction.
4. Reading professionals create and engage their students in literacy practices that develop awareness, understanding, respect, and a valuing of differences in our society.
5. Reading professionals create a literate environment that fosters reading and writing by integrating foundational knowledge, instructional practices, approaches and methods, curriculum materials, and the appropriate use of assessments.
6. Reading professionals recognize the importance of, demonstrate, and facilitate professional learning and leadership as a career-long effort and responsibility.

Admissions Criteria

1. A valid Connecticut teaching certificate (or proof of eligibility);
2. An appropriate regionally accredited Master's degree;
3. At least two letters of recommendation from persons able to testify to your suitability as a prospective teacher and your potential for graduate-level work;
4. An essay demonstrating a command of the English language and setting out the reasons for wanting to enroll in the program and emphasizing experience relevant to teaching;
5. A successful team interview with faculty;
6. Completion of at least 30 school months of successful classroom teaching experience.
7. Connecticut's essential skills testing requirements: passing scores in the PRAXIS I exams in Reading, Writing, and Mathematics or an official essential skills test waiver currently meeting this requirement.
8. Passing scores on the Connecticut Foundations of Reading Test.

PREREQUISITE REQUIREMENTS*

*THESE REQUIREMENTS MAY BE MET BY TAKING AN UNDERGRADUATE OR GRADUATE COURSE WITH A GRADE OF AT LEAST A "B."

EDUCATIONAL PSYCHOLOGY – 3 credits (required)

EDUC 509	Psychological Foundations in Education	3
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CHILDREN'S OR ADOLESCENT LITERATURE – 3 credits (required)

EDUC 536C	Children's Literacy	3
or EDUC 536J	Adolescent Literacy	3

SPECIAL EDUCATION – 3 credits (required)

EDUC 564	Education of the Exceptional Student	3
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TESTS AND MEASUREMENTS – 3 credits (required)

EDUC 558	Evaluation of Instructional Outcomes	3
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CURRICULUM: METHODS AND MATERIALS IN TEACHING LANGUAGE ARTS – 3 credits (required)

EDUC 440C	Methods and Materials in Teaching Language Arts	3
or EDUC 440M/J	Methods and Materials in Teaching Language Arts	3

SECOND LANGUAGE LEARNING AND ACQUISITION

– 1 credit (required)		
EDUC 570	Instruction for the English Language Learner	1
Total Credits		16

INITIAL PROGRAM REQUIREMENTS

(The initial program requirements may be met through completion of the following courses at the Master's or Sixth Year level:)

DEVELOPMENTAL READING – 6 credits (required)

EDUC 574	Developmental Reading in the Elementary School	3
and EDUC 575M/J	Reading and Writing in the Content Areas	3

DIAGNOSIS AND REMEDIATION OF READING AND LANGUAGE ARTS DIFFICULTIES – 3 credits (required)

EDUC 571	Diagnosis and Intervention of Reading and Language Arts Difficulties	3
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CLINICAL FIELD EXPERIENCE – 7 credits (required)

EDUC 596	Field Experience in Reading and Language Arts	1
EDUC 597	Practicum in Reading and Language Arts	6
Total Credits		16

ADVANCED PROGRAM REQUIREMENTS

ADVANCED READING AND LANGUAGE ARTS DIAGNOSIS – 2 credits (required)

EDUC 572	Advanced Diagnosis of Reading and Language Arts Difficulties	2
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Education Sixth Year Certificate of Advance Studies (CAS) in Reading and Language Arts Consultant Certification

ORGANIZATION, ADMINISTRATION, AND SUPERVISION OF READING – 4 credits (required)

EDLD 611	Administration: Organizing and Staffing Educational Institutions	3
or EDLD 613	Leadership	3
EDLD 611A	Organization, Administration, and Supervision of Reading and Language Arts Programs	1

READING AND LANGUAGE ARTS CONSULTANT

PRACTICUM AND APPLIED RESEARCH – 6 credits (required)

EDLD 683	Internship for the Reading & Language Arts Consultant	6
Total Credits	12	

ADDITIONAL PROGRAM REQUIREMENTS _____

FINAL DEGREE REQUIREMENT

(Choose one of the following:)

EDUC 668	Literacy Research Project	1
EDUC 669	Sixth Year Project	3
or		
EDUC 695	Advanced Thesis Research– Sixth Year	3

ADDITIONAL COURSEWORK FOR CERTIFICATION (required if Noted)

Total Number of Credits

Sixth Year Total Minimum: 30 credits

Educational Administration and Supervision Sixth Year Certificate of Advanced Study (DAS), Intermediate Administrator (092 Certification) Certification Track

Waterbury Center
Telephone: (203) 573-1014
Fax: (203) 573-8567

Program Goals

The Educational Leadership with Administration and Supervision Program Goals are adapted from Connecticut State Department of Education's common Core of Leading (2013). The Educational Leadership with Administration and Supervision program at the University of Bridgeport seeks to develop leaders who can accomplish all of the following:

Develop a shared vision for student learning that creates meaning for the people in the organization and infuses purpose into the strategies and standards for actions linked to that vision.

Promote an instructional program, built on high expectations for all learners and conducive to student learning and professional growth, thereby developing a school culture of success for all learners.

Establish positive learning environments by developing trust and credibility through meaningful relationships.

Establish a culture that is open and inclusive, through modeling and expecting ethical and moral behaviors from all.

A student who holds a Master's degree from an accredited college or university may apply to in the Sixth Year program. The Professional Diploma program consists of thirty semester hours.

The Sixth Year Program, leading to the professional Diploma in Educational Leadership with Administration and Supervision, is designed to meet requirements leading to administrator and supervisor certification (092). This Connecticut State Certification enables a candidate to apply for leadership positions other than Superintendent of Schools (093 certification). With the exception of Reading and Language arts, this certification would also include subject area consultant and curriculum coordinator.

Intermediate Administrator (092 Certification) Certification Track Summary of Requirements

(30 SEMESTER HOURS)

CERTIFICATION REQUIRES COURSES IN EACH OF THE FIVE AREAS, AND A TOTAL OF 24 CREDITS BEYOND THE MASTER'S

REQUIRED CORE

I. PSYCHOLOGICAL/PEDAGOGICAL

*EDLD 621 Evaluation of School Effectiveness

II. CURRICULUM/PROGRAM MONITORING

*EDLD 651 Curriculum Development

III. SCHOOL ADMINISTRATION

EDLD 618 School Finance (required)

EDLD 619 School Law (required)

IV. PERSONNEL EVALUATION/SUPERVISION

EDLD 652 Supervision: Evaluation/Development

V. CONTEMPORARY EDUCATIONAL PROBLEMS/POLICY MAKING

EDLD 601 Introduction to Education Leadership

EDLD 664 Supervision of Programs for Students with Exceptionalities

Notes:

1. Administrative Internship ED. 681A (3 credits) required
2. CAT Examination – required for 092 certification
3. EDUC 664 Supervision of Programs & Services for students with Exceptionalities (This requirement will be substituted for an elective if the candidate holds appropriate certification Social Work, Speech, Psychology, Special Ed.).
Must be completed for certification.
4. Certification (092) = 24 credits
5. 6th Year professional Diploma = 30 credits

SUGGESTED ELECTIVES (3 CREDITS EACH)

EDLD 613 Contemporary Issues in Education Leadership

EDLD 614 Leadership & Management of School Facilities

EDLD 680A Urban Leadership

EDLD 615 Research & Data Informed Supervision

EDLD 661x Map It Forward

Electives offered by other departments or colleges, may be substituted with approval by the student's advisor.

Total Semester Hours _____ 30

Master of Education (M.Ed.)

Carlson Hall, Room 118
Telephone: (203) 576-4201
Fax: (203) 576-4200

In our M.Ed. program, you will learn how to apply the Universal Design for Learning (UDL) framework to proactively design capacity-building learning experiences. Within UDL, learner variability, whether visible or invisible, is seen as an asset. Based in cognitive neuroscience, UDL focuses on designing with variability in mind and removing barriers to learning by frontloading flexible options for engaging learners, teaching important concepts, and building goal-directed learners. In your coursework, you will experience the UDL framework firsthand as program faculty model the principles and actively engage you in applying UDL in your own practice.

This is a joint program offered by Goodwin University and University of Bridgeport. You will learn alongside fellow students from both universities and share experiences in a richly diverse learning environment. Upon completion, your master's degree will list both universities.

Mission Statement

The mission of the Master of Education program is to prepare reflective practitioner-leaders who will create engaging cultures in schools and communities. Our graduates will create, apply, and share evidence-based practice knowledge to advance educational excellence and equity for all learners.

Program Outcomes

At the end of the program, students will be able to:

- Design capacity-building learning environments that are responsive to learner variability.
- Apply evidence-based instructional practices to build expert learners.
- Evaluate instructional programs to improve learner outcomes.
- Analyze school policies and practices through social, cultural, political, and historical lenses.

- Design evidence-based professional learning that supports excellence in teaching.
- Apply reflective practice as a practitioner-researcher.

Admission Requirements

In addition to meeting the University requirements of all graduate program applications, students interested in the Master of Education (M.Ed.) must also:

1. Interview with the program director or faculty for admittance.
2. Provide three strong recommendations highlighting excellence in the applicant's professional experience.

Graduation Requirements

Students must maintain a 3.0 GPA and complete all course requirements as stated in the catalog with a minimum grade of "C."

Curriculum

Master of Education (M.Ed.) Requirements

Credit for Prior Learning

ARC 6-Credits

Students who provide documentation that they have successfully completed Connecticut's Alternative Route to Certification (ARC) will automatically receive 6 credits toward their 30-credit degree program. All students who fall into this category are not required to take EDUC 630 (3 credits) and EDUC 635 (3 credits). ARC completers are required to take all other courses unless they have successfully completed a portfolio in lieu of a specific course.

Portfolio 6-Credits

In consultation with the M.Ed. Program Director, students may select to seek 6 credits toward their 30-credit degree program through a digital portfolio process. Students are not allowed to portfolio out of EDUC 640.

COURSES

EDUC 601	Social Foundations of Education	3
EDUC 605	Contemporary Issues in Urban Education	3
EDUC 610	Teacher Leadership: Theory and Practice	3
EDUC 615	Curriculum Theory	3
EDUC 620	Effective Learning Environments	3
EDUC 625	Classroom-Based Assessment	3
EDUC 630	Instructional Coaching	3
EDUC 635	Leading Professional Learning	3
EDUC 640*	Appreciative Inquiry Capstone	6

TOTAL CREDITS IN THE PROGRAM	30
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*All students must complete EDUC 640 (6 credits) with a grade of B- or higher. Students may not portfolio out of this course.

Student Affairs Administration and Leadership (M.Ed.)

Carlson Hall, Room 118
 Telephone: (203) 576-4201
 Fax: (203) 576-4200

Student Affairs Administration and Leadership (SAAL) is a hybrid degree program that prepares candidates for student affairs positions in college and university settings as well as in business and industry, nonprofit organizations, and foundations. Coursework is designed to ensure that graduates understand how student affairs administrators and leaders directly contribute to the social development, academic success, and overall well-being of the whole person. Advanced coursework in this concentration includes classes in career and lifestyle development, organization and administration of higher education, and college student development. This program is 34 credit hours and may be completed on a full-time or part-time basis. No special licensing post-degree is required for a career in student affairs administration and leadership.

Program Objectives

Upon completion of the program, students demonstrate:

- Application of a lifespan approach to career and lifestyle development
- The ability to perform career assessment and career guidance
- An understanding of assessment tools used in advisement centers
- The knowledge, skills, and dispositions required of a leader: collaborative engagement to envision, plan, and affect change within organizations.
- The ability to contribute to the advancement of holistic wellness of others through advisement and supportive services.
- An appreciation of how social justice and inclusion competencies contribute to their practice by meeting the needs of all groups, raising social consciousness, and providing equitable services and opportunities for all.
- The ability to apply developmental

theory to improve and inform best practices and services within colleges and universities, business and industry, nonprofit organizations, and foundations.	(3 credits-required) EDUC 595 Thesis Research 3
	Total Credits for Degree: 34

Curriculum

Coursework is designed to ensure that graduates understand how student affairs administrators and leaders directly contribute to the social development, academic success, and overall well-being of the whole person. This program is 34 credit hours and may be completed on a full-time or part-time basis.

A. FOUNDATIONS OF EDUCATION

(6 credits - required)

EDUC 509 Psychological Foundations in Education	3
(offered Fall, Spring, Summer)	

EDUC 500 Research Writing	3
(offered Fall)	

B. STUDENT AFFAIRS CORE REQUIREMENTS

(10 credits - required)

EDLD 555 Student Development Theory	3
(offered Spring)	
EDUC 632 Career Services in Colleges/Corporations	3
(offered Summer)	
EDUC 506 Ethical/Legal Issues in Education	4
(offered Fall)	

C. EDUCATIONAL LEADERSHIP REQUIREMENTS

(9 credits-required)

EDLD 562 Today's Diverse Learner	3
(offered Fall, Spring)	
EDMM 656 Best Practices in Urban Education	3
(offered Fall, Spring)	
EDMM 693 Strategies in Professional Development	3
(offered Summer)	

D. FIELD EXPERIENCE

(6 credits - required)

Student Affairs Internship I	3
(offered Fall)	
Student Affairs Internship II	3
(offered Spring)	

E. FINAL DEGREE REQUIREMENTS

Educational Leadership Doctor of Education Degree

Carlson Hall
Telephone: (203) 576-4097
Fax: (203) 576-4200

The on-campus Educational Leadership Doctoral Program at the University of Bridgeport was the first of its kind in Connecticut, approved by the New England Association of Schools and Colleges (NEASC), and has been operating since 1979. The program was designed to enhance and improve the effectiveness of public and private organization leaders, school administrators, and researchers. Graduates and current students have held and hold significant positions in state-wide school systems, for-profit, non-profit institutions, colleges, and universities. The advanced graduate curriculum integrates the sound principles of administration, management, organizational psychology, information technology, program evaluation, grant writing, quantitative, and qualitative research methodologies.

The Hybrid (predominately online) Educational Leadership Doctoral Program was instituted in the Fall of 2015. It is closely aligned to the on-campus program, but requires four International Education courses. These four courses, described later in this handbook, replace four courses that are a component of the traditional "on the ground" Educational Leadership Doctoral Program.

The program is specifically tailored for working professionals anywhere in the world, as all classes (except for two one-week summer doctoral residencies) are offered online. The successful completion of the program leads to the Doctor of Education degree (Ed.D.).

The 62-credit program takes approximately three years for completion including two years (six semesters) of formal study, and one year to complete the dissertation. During the first two years, students typically take nine credits pf doctoral seminars per semester (Fall, Spring, and Summer). For students to be considered full time, they must take a minimum of 6 credits Fall and Spring semester until they have completed all courses with the exception of EDLD 845-DL (Comprehensive Examination) and EDLD 846-DLcDissertation Proposal Defense). These two courses ae repeatable as necessary. Once EDLD 845 and EDLD 846-DL are successfully passed students take EDLD 850-DL (zero credit=full

time) continuously Fall and Spring semesters and under advisement of the Director or Chair for the summer term until they have graduated. Students must take a one-week Doctoral Residency (EDLD 825-DL) during the first two summers as part of the requirement of the program.

Note: On-campus courses (without the -DL designation) may be substituted for the (Distance Learning) courses with the approval of both Program Directors.

Learning Outcomes

The candidates will be able to:

1. Integrate principles of administration, management, organization and program evaluation n a research agenda;
2. Produce a dissertation proposal that reflects a student's research interests;
3. Exhibit the mastery of principles of leadership and be able to pass the comprehensive examination questions;
4. Research, write, and defend a Doctoral dissertation.

1. Summary of Requirements

Required Courses

EDLD 601	Introduction to Education Leadership
EDLD 621	Evaluation of School Effectiveness
EDLD 651	Workshop in Curriculum Development
EDLD 801	Curricula Theory
EDLD 804	Constitutional Law
EDLD 805	Grant Writing
EDLD 807	Organization Management
EDLD 808	Program Evaluation
EDLD 811	Intro to Research
EDLD 812	Quantitative Research
EDLD 813	Literature Review
EDLD 813A	Literature Theory
EDLD 814	Qualitative Research
EDLD 817	Postsecondary Teaching or Leadership Experience
EDLD 820	Ethical Issues in International Education
EDLD 825	Doctoral Residency (2x)
EDLD 830	International Education Concept & Theories
EDLD 840	Comparative Education
EDLD 842	Culture, Society & Education in International Contexts
EDLD 845	Comprehensive Exam
EDLD 846	Dissertation Proposals
EDLD 850	Continuous Dissertation

Required Courses to add 092 Certification (on-campus)

EDLD 601	introduction to Education Leadership
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EDLD 618	Public School Finance
EDLD 619	School Law
EDLD 621	Evaluation of School Effectiveness
EDLD 651A	Workshop in Curriculum Development
EDLD 652	Supervision/Evaluation of Personnel
EDLD 664	Supervision/Services Exceptionalities
EDLD 681A	Administrative Leadership

Note: This program requires a minimum of 62 post-master's credits, or 42 credits for students with an accredited Sixth-Year or Education Specialist post-master's degree, to meet the credit requirement of the doctoral degree.

2. Residency

A period of residence must be included in a doctoral program to provide significant faculty-student interaction, opportunities for exposure to and engagement with cognate disciplines and research scholars working in those disciplines, and significant face-to-face peer interaction among graduate students. Residency is established through continuous enrollment, fall, spring, and summer (which is highly recommended) with a minimum of 3 credits per semester in the first two years. It is established through two on-campus summer Doctoral Residency week (EDLD 825). Residency provides the opportunity for a mentor-apprentice relationship between faculty and students and time for in-depth and direct faculty support of students. Thus, the intent of the residency requirement is to ensure that doctoral students contribute to, and benefit from, the complete spectrum of educational, professional, and enrichment opportunities provided on and off the University of Bridgeport campus. ELD 845 Comprehensive Examination and EDLD 846 Dissertation Proposal Defense should be taken in sequence and are considered making adequate progress in the program. Students enrolled in EDLD 850 Continuous Dissertation, which is a 0-credit course, are considered full time.

3. Dissertation Preparation

The dissertation proposal draft is a 30-50 page overview od he student's ideas or his/ her dissertation and a well-developed draft of her/his literature review. The draft is created in the first year of the program as part of EDLD 811 Introduction to Research, EDLD 812 Quantitative Research and EDLD 813 Literature Review. The proposal provides opportunities for guidance from dissertation committee members and is a basis for further

Educational Leadership Doctor of Education Degree

expansion of methodology in EDLD 813A Literature Review and EDLD 814 Qualitative Research taken in the second year. The purpose for the dissertation proposal draft is to state the problem, purpose, research questions, methodology and procedures to conduct the research project. The proposal draft will include a graphic depiction of the methodology and methods and a time line for completion of the dissertation including literature review and Human Subject approval. Discussing the research proposal in draft format with a potential committee chair, other potential committee members, and peers enable the student to obtain advice early in the dissertation process as to the suitability of the topic and as to whether or not the research questions, methodologies, and procedures are logical, appropriate and sound.

4. Comprehensive Examination and Dissertation Proposal

All matriculated doctoral students wishing to become doctoral candidates must pass the EDLD 845 course inclusive of the written comprehensive examination. The comprehensive exam consists of (a) one research methodology question; (b) one program focus question and (c) one area of specialization question related to the students' dissertation topic. Questions for the comprehensive examination are created by doctoral faculty with input from the student to rigorously assess mastery and knowledge garnered during coursework. The comprehensive examination also gauges the student's potential for independent dissertation research. Students should take the exam after all coursework has been completed.

Doctoral students who passed their comprehensive examination can consequently enroll in the EDLD 846 course inclusive of the defense of the dissertation proposal.

The UB Doctoral Guidelines are derived from standard practices among universities, libraries, and publishers. The student, their committee, and the School of education expects careful attention to APA 6th style and format in the proposal document. The proposal includes the student's statement of a research problem and the chosen method of investigating it. The proposal is the first step toward completion of the dissertation, which is an original contribution to one's field of study. The study may be applied research;

it may be experimental quasi-experimental, or non-experimental in its design; it may include quantitative, qualitative, action, mixed or critical methodology.

The dissertation proposal is an overview of the student's ideas for their dissertation. The purpose for the dissertation proposal is to state the problem, purpose, research questions, outline the method and procedures to conduct the research project. The proposal draft will include a graphic depiction of the methods proposed and a time line for completion of the dissertation proposal including literature review and Institutional Review Board approval. Discussing the research in draft format with a potential with a potential committee chair, other potential committee members, and peers will enable the student to obtain advice early in the dissertation process as to the suitability of the topic and as to whether or not the research questions, method, and procedures are logical, appropriate, and sound.

5. Dissertation-Doctoral Candidacy

Once the student has successfully passed the Comprehensive Examination and completed the Dissertation Proposal, he or she is eligible to apply to be a Doctoral Candidate. The student should submit the form "Admission to Doctoral Candidacy" to the Director. This designation will be conveyed to the student by an official letter from the School of Education and/or the Department of Educational Leadership. Doctoral Candidacy allows the student to register for dissertation advising EDLD 850 which is a 0 credit course but is deemed to be full time. A student must be a candidate for at least two semesters prior to the granting of the degree. Student may not, unless granted a waiver, defend the dissertation during the semester immediately following the semester during which he or she completed the proposal. The purpose of this requirement is to assure a minimal lapse of time for effective work on the dissertation after acquisition of the basic competence and after delineation and approval of the research problem and methodology. Once students are advanced to candidacy they must be enrolled in EDLD 850 continuously for dissertation advising and supervision (fall, spring and summer semesters) until graduation. If the student is not advanced to candidacy

within six years from the time of admission to the doctoral program, the student should be dismissed from the program. Each student has a three-member dissertation committee, the director of the Ed.D. Program, and the Dean of School of Education.

Note: Completion of Doctoral Degree

The degree must be completed within seven years of the date from which the student started coursework in the doctoral program. In exceptional cases, the department may recommend that the Dean grant an extension of this limit.

COLLEGE OF HEALTH SCIENCES

Acupuncture Institute

Health Sciences Center
60 Lafayette Street
Telephone: (203) 576-4122
Fax: (203) 576-4107
Email: acup@bridgeport.edu

Acupuncture and Traditional Chinese Medicine (TCM) are one of the most respected healing professions around the globe. It serves a quarter of the world's population and has increased in public acceptance in the United States and Europe as the fastest growing complementary health care field. TCM has gained this respect by being the most ancient written form of medical therapy known. For more information, call Dr. Jennifer Brett: (203) 576-4122 or 1-800-EXCEL-UB (1-800-392-3582), ext. 4122

Traditional Chinese Medicine (TCM), which encompasses acupuncture, manual therapy, diet counseling, herbal therapies, exercise and breathing techniques, has been in use for thousands of years. Over the millennia, the Asian community has continuously refined this ancient healing art. During the last century, this refinement has included integration of Western medical sciences within the paradigm of TCM.

Degrees

- Master of Science in Acupuncture (M.S.Ac.)
- Master of Science in Acupuncture with Chinese Herbology (MS.Ac.CH)
- Master of Science in Chinese Herbology (M.S.CH.)
- Doctorate in Acupuncture with Traditional Chinese Herbal Medicine (DAc.TCM)

M.S.Ac.

The development of the Master of Science in Acupuncture degree program integrates the medical concepts of both the East and West. The student will learn classical acupuncture and Traditional Chinese medical theory as well as up-to-date western bio-medical sciences.

The Master of Science in Acupuncture degree program's goal is to provide acupuncture and Traditional Chinese medical training consistent with the developing traditions in

Asia and the growing modern health care system in the United States.

Having an opportunity to work alone and in conjunction with other health care practitioners in the Health Sciences Center, the students will be able to integrate the care of patients with other health care providers. Thus, the student gains a "real world" advantage before entering private practice.

MS.Ac.CH.

The MS-TCM is a 4-year program during which the students are instructed in Chinese Herbology during three (3) of the four (4) years of training, after a first year of basic sciences, theory and diagnosis classes lay the foundation for understanding the art and science of a full range of TCM modalities. All foundational courses and clinical rotations from the MS-AC program are included in the MS-TCM.

The nearly 3400-hours of training in Traditional Chinese Medicine modalities, including excellent training in acupuncture, moxibustion, tui na as well as Chinese herbal studies is designed to produce graduates with exemplary clinical skills. The clinical focus of this program is evident from the very first classes and permeates all the training in the MS-TCM program.

The MS-TCM program is a residential program with students completing 80% of their course work and clinical rotations in residence. The Chinese herbology (ACH) courses will be offered in a blended format with 50% of the didactic program offered online and 50% in person each semester, and additional weekends each summer for advanced study. Students will participate in an online environment to complete their herbal studies.

M.S.CH.

The MS-CH program is a stand-alone program that will allow licensed health care professionals to better understand Chinese Herbology and be able to safely utilize these herbal products.

Currently, many healthcare professionals are able to prescribe herbal therapies (MDs, DOs, NDs, DCs, L.Acs) or work with herbal therapies (PharmDs). The UB MS-CH pro-

gram is the only clinically-oriented systematic masters-level program for health professionals in these therapies. The focus of this program is on not only clinical usage of Chinese herbal therapies but also on safety in the clinical setting while framing the clinical use of these herbs in the TCM tradition. The potential for issues associated with integrated care and drug-herb and nutrient-herb interactions are covered in detail within the MS-CH courses.

The nearly 900-hours of training in Chinese herbal studies will produce graduates with exemplary clinical skills. The clinical focus of this program is evident from the very first classes and permeates all the training in the MS-CH program.

D.TCM.

The D.TCM is a 166-credit, 4-year program during which the students are instructed in both biomedicine and Traditional Chinese Medicine (TCM). The first year of studies focuses on biomedicine and TCM theory and diagnosis classes which form the foundation for understanding the art and science of TCM modalities. The second and third years introduce students to the full panoply of TCM treatment modalities including acupuncture, Chinese herbology, dietetics, tui na, taijichuan and qigong. The last two years of training focus on clinical rotations both on campus and off campus including training in integrated medical settings.

The D-TCM program is designed to provide significant training in biomedicine and integrative medicine for those interested in providing traditional Chinese medicine in primary care. Chinese medicine practitioners (L.Ac.s) play an important part in U.S. healthcare. The Affordable Care Act prohibits discrimination against complementary and alternative medicine (CAM) practitioners, including acupuncturists. UBAI is dedicated to ensuring that its graduate practitioners are included in all aspects of healthcare, from the private office to hospitals and public health forums.

UBAI's D-TCM program will help graduates participate in a healthcare system that is multidisciplinary and enhances competence, mutual respect, and collaboration across all healthcare disciplines. The clinical program

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stresses a team-based approach to care.

Accreditation

The MS-Acupuncture, MS-Acupuncture with Chinese herbology, and Doctorate of Acupuncture with Traditional Chinese Herbal Medicine degree programs of the University of Bridgeport Acupuncture Institute are programmatically accredited by the Accreditation Commission for Acupuncture and Herbal Medicine (ACAHM), which is the recognized accrediting agency for programs preparing acupuncture and TCM medicine practitioners.

Accreditation contact:

ACAHM

8941 Aztec Drive
Eden Prairie, Minnesota 55347
Phone 952/212-2434; fax 952/657-7068.
email: info@acaom.org

Educational Mission, Objectives & Goals

Acupuncture Institute Mission & Educational Objectives

The mission of the University of Bridgeport Acupuncture Institute is to offer a comprehensive education and training that prepares qualified candidates to become successful licensed practitioners of Traditional Chinese Medicine. The programs seek to advance the practice and discipline of Traditional Chinese Medicine through educational, clinical and scholarly activities. The programs educate and train students to be productive, skilled caring and responsible healthcare professionals.

The Educational Objectives of the Acupuncture Institute are to train and educate acupuncture students who prior to graduation:

The Educational Objectives of the Acupuncture Institute are to train and educate acupuncture students who prior to graduation:

1. Demonstrate competency in utilizing the four examinations to identify Traditional Chinese Medicine (TCM) diagnoses.
2. Have the ability to formulate and skillfully implement the safe and effective clinical application of Chinese medicine modalities based upon a total assessment

of the patient;

- a. For MS- Acup: to formulate and skillfully implement safe and effective TCM acupuncture, moxibustion, qi cultivation, tui na and adjunctive techniques.
 - b. For MS-Acu w/Chinese Herbs & DAc. TCM.: to formulate and skillfully implement safe and effective acupuncture, moxibustion, Chinese herbal medicine, qi cultivation, tui na and other adjunctive techniques.
 - c. For MS-CH: to formulate and skillfully implement safe and effective Chinese herbal medicine, and dietary therapies.
3. Adapt diagnosis and treatment strategies as needed for diverse patient populations.
 4. Evaluate patient care from biomedical, pharmacological and Asian perspective in order to understand the medical context in which patients present, make appropriate treatment, and consultation decisions in various healthcare settings including as part of a collaborative health care team; and make timely referrals when appropriate.
 5. Value patients' dignity and confidentiality.
 6. DAc.TCM: will have the knowledge and skills necessary to provide patient-centered care in a variety of settings in order to optimize patient health and coordinate care with other healthcare practitioner.

University of Bridgeport Acupuncture Institute institutional goals are to:

Offer a comprehensive graduate-level education that trains future graduates in a broad range of TCM knowledge, competencies and skills so that we achieve our Mission and educational objectives

1. Offer a comprehensive graduate-level education that trains future graduates in a broad range of TCM knowledge, competencies and skills so that we achieve our Mission and educational objectives
2. Administer a professional and affordable treatment clinic that:

- Serves the local community; and
 - Instructs student interns in the diagnosis and treatment of health conditions in a diverse population
3. Conduct outreach clinics to:
 - Support the profession of acupuncture through community service; and
 - Train students in integrative care settings;
 4. Preserve and further the understanding of human health and the art of Asian medicine.
 5. Produce graduates who can meet state and national licensure requirements.

Curriculum for Each Degree

CURRICULUM MS-AC

The Master of Science in Acupuncture degree program is three years in length (34 months) and is scheduled on a semester basis. The curriculum of this major consists of seven (7) distinct areas:

1. Acupuncture Practice and Techniques:

The nine (9) acupuncture courses introduce students to the theoretical and practical information of acupuncture therapy. The student becomes proficient in the clinical applications of acupuncture, moxibustion, cupping, electrical stimulation, and bleeding techniques. The student learns to identify acupuncture points by anatomical location, palpation, and proportional measurement. The classification, function and indications for each acupuncture point are discussed and demonstrated. In addition to the twelve bilateral channels, two midline vessels and six other extra meridians, forbidden and contraindication of points are discussed. In addition, extra points, auricular points and other categories of acupuncture points are demonstrated and treatment techniques based on these extra meridians and points are discussed and practiced.

2. Asian Medicine Theory, Diagnosis and Application:

The twelve (12) TCM medicine theory

Acupuncture Institute

and diagnosis courses are designed to provide the student with an understanding of the scope, philosophy, theory and conceptual frame work of TCM medicine and how acupuncture specifically affects the body within the TCM treatment paradigms. Emphasis is placed on Traditional Chinese Medicine (TCM) diagnoses and effective treatment strategies.

3. Western Biomedicine:

The twelve (12) western biomedical courses are designed to train the student fully about western medical terms, history taking, physical exam and diagnostic skills. The student learns how to make the appropriate referral and consultation, as well as the clinical relevance of laboratory and diagnostic tests and procedures.

4. Herbal Medicine Survey:

The four (4) courses in herbal medicine and dietetics give the student a basic introduction to western and Chinese botanical medicine and TCM treatment philosophies relevant to herbal medicine and clinical diet therapies. Training in botanical medicine is limited in the Acupuncture Institute to three survey courses: Botanical Medicine, Introduction to Chinese Herbal Remedies and Patent Remedies. Information is provided on indications, contraindications and drug-herb interactions. In addition, the two courses in dietetics and nutrition help the student understand the role of nutrition in patients' health. (Note that the course in western nutrition is listed under Western Biomedicine: ANT 521 Nutrition.)

5. Movement and Respiration Studies:

The seven (7) movement and respiration courses are designed to enhance the student's personal and energetic development. The student will be exposed to a wide variety of Asian movement practices that can be used to maintain their own and their patients' health care needs. In addition to the movement studies, two courses in soft tissue treatment techniques are offered.

6. Counseling, communications

and practice management:

The four (4) specific courses in this area enhance the students' clinical skills, both in terms of diagnosing addressing patients' psychological health and in the area of best business practices. These courses help students learn the fundamental skills needed for private practice, ethical and legal considerations in health care and special considerations for practice in integrated care settings.

7. Clinical Services:

The five (5) clinical services courses are designed to allow the student to develop clinical, interpersonal communication and decision-making skills. In addition, students learn professional conduct, efficiency and confidence in dealing with patients on a regular basis. From inception through the end of clinical training, the student has the opportunity to observe and work with advanced TCM practitioners as well as other health care professionals. This allows the student to understand how and when to make appropriate referrals. Clinical service rotations are available in the UBAI on-campus clinic as well as in community and hospital outreach clinical sites. By the end of clinical training, each student will have seen a minimum of 380 patient visits and will have completed 830 hours of clinical training.

Acupuncture Requirements

Semester 1

COURSE	LECT.	LAB	HRS.	CR.
ABS 511 Anatomy 1	4	0	72	4
ABS 515 Physiology 1	2	0	36	2
ATD 511 TCM History/Philosophy	1	0	18	1
ATD 512 TCM Theory	2	0	36	2
ATD 513 TCM Diagnosis 1	2	0	36	2
APT 511 Point Location 1	1.5	1	45	2
APT 512 Meridian Theory	2	0	36	2
AMR 511 Tai Ji Quan 1	0	1.5	27	1
ACS 511 Evidence Informed Practices	1	0	18	1
AWB 501 UBAI Clinical Safety Procedures	0.5	0	9	0.5
TOTAL	16	2.5	333	17.5

Semester 2

COURSE	LECT.	LAB	HRS.	CR.
ABS 522 Anatomy 2	4	0	72	4
ABS 525 Physiology 2	2	0	36	2
ATD 524 TCM Diagnosis 2	2	0	36	2
ATD 526 Seminar 1	1	0	18	1
APT 523 Point Location 2	1.5	1	45	2

AMR 522 Tai Ji Quan 2	0	1.5	27	1
ANT 521 Western Nutrition	2	0	36	2
AWB 521 TCM Safe Practices	1	1	45	1.5
AWB 523 Pharmacology	1	0	18	1
TOTAL	14.5	3.5	333	16.5

Semester 3

COURSE	LECT.	LAB	HRS.	CR.
ACS 611 Pathology 1	2	0	36	2
ACS 612 Clinical Diagnosis 1	3	2	90	4
ACS 613 Lab Diagnosis	2	0	36	2
APT 614 Acupuncture Tech 1	2	2	72	3
AHM 521 Botanical Medicine	2	0	36	2
AHM 612 Intro Chin Herbal Remedies	1	0	18	1
AHM 613 TCM Dietetics	2	0	36	2
AMR 613 Qi Gong 1	0	1.5	27	1
ATD 529 Seminar 2	1	0	18	1
ACS 711 Preceptorship 1	0	3	75	2
TOTAL	15.5	8.5	444	20

Semester 4

COURSE	LECT.	LAB	HRS.	CR.
ACS 623 Clinical Diagnosis 2	3	2	90	4
ACS 624 Pathology 2	3	0	54	3
AWB 621 Medical Ethics	1	0	18	1
APS 621 Psych Assessment	2	0	36	2
APT 625 Acupuncture Tech 2	2	2	72	3
ATD 727 Case Studies 1	1	0	18	1
APT 626 Auricular Acupuncture	1	0	18	1
AMR 624 Qi Gong 2	0	1.5	27	1
ACS 722 Preceptorship 2	0	3	75	2
TOTAL	13	8.5	408	18

Summer Session

COURSE	LECT.	LAB	HRS.	CR.
ACS 631 Clinical Education 1	0	10	245	8
APT 637 Japanese Acup Techniques	1	0	18	1
AMR 627 Tuina 1	1	2	54	2
ATD 711 Differential Diagnosis & Pathomechanisms	2	0	36	2
TOTAL	4	12	353	13

Semester 5

COURSE	LECT.	LAB	HRS.	CR.
ATD 618 Seminar 3	1	0	18	1
ATD 715 TCM Internal Medicine	2	0	36	2
ATD 728 Case Study 2	1	0	18	1
ATD 729 Acupuncture Gynecology	1	0	18	1
AMR 715 Tuina 2	1	2	54	2
ACS 712 Clinical Education 2	0	10	215	8
TOTAL	6	12	359	15

Semester 6

COURSE	LECT.	LAB	HRS.	CR.
ATD 717 Advanced Pulse/Tongue Dx	1	0	18	1
AMR 726 Tuina 3	1	2	54	2
APT 718 Pediatric Acupuncture	1	0	18	1
AHM 713 Patent Remedies	2	0	36	2
APP 721 Practice Management	2	0	36	2
ACS 724 Public Health	2	0	36	2
ACS 723 Clinical Education 3	0	10	220	8
TOTAL	9	12	418	18
Total All Semesters:	76.5	59	2,648	118
Total: 118 credits.				

Acupuncture Institute

830 Clinical hours/26 credits;
1815 didactic hours/92 credits.

CURRICULUM – MS. Acupuncture with Chinese Herbology

The Master of Science in Traditional Chinese Medicine degree program is four years in length (45 months) and is scheduled on a semester basis. The curriculum of this major consists of eight (8) distinct areas:

1. Acupuncture Practice and Techniques (APT)

The nine (9) acupuncture courses introduce students to the theoretical and practical information of acupuncture therapy. The student becomes proficient in the clinical applications of acupuncture, moxibustion, cupping, electrical stimulation, and bleeding techniques. The student learns to identify acupuncture points by anatomical location, palpation, and proportional measurement. The classification, function and indications for each acupuncture point are discussed and demonstrated. In addition to the twelve bilateral channels, two midline vessels and six other extra meridians, forbidden and contraindication of points are discussed. In addition, extra points, auricular points and other categories of acupuncture points are demonstrated and treatment techniques based on these extra meridians and points are discussed and practiced.

2. Asian Medicine Theory, Diagnosis and Application (ATD)

The twelve (12) TCM medicine theory and diagnosis courses are designed to provide the student with an understanding of the scope, philosophy, theory and conceptual frame work of TCM medicine and how acupuncture specifically affects the body within the Traditional Chinese Medicine treatment paradigms. Emphasis is placed on Traditional Chinese Medicine (TCM) diagnoses and effective treatment strategies.

3. Western Biomedicine (AWB)

The twelve (12) western biomedical courses are designed to train the student fully about western medical terms, his-

tory taking, physical exam and diagnostic skills. The student learns how to make the appropriate referral and consultation, as well as the clinical relevance of laboratory and diagnostic tests and procedures.

4. Herbal Medicine Survey (AHM)

The five (5) courses in herbal medicine and dietetics give the student a basic introduction to Chinese pharmacy and dispensary practices, common OTC North American botanicals, the ethical consideration of utilizing sparse resources, and TCM clinical diet therapies. Information in the western botanical and pharmacy classes provides clear information regarding indications, contraindications and drug-herb interactions. The ethical and ecological impacts of TCM *materia medica* on the health of the individual and the world are explored. In addition, the two courses in dietetics and nutrition help the student understand the role of nutrition in patients' health. (Note that the course in western nutrition is listed under Western Biomedicine: ANT 521 Nutrition.)

5. Asian/Chinese Herbology (ACH)

The ten (10) courses in Chinese Herbology offer the student a thorough understanding of Chinese *Materia Medica*, Classical and Patent formulas and modifications, and the clinical application of Chinese herbs and formulae. The student becomes proficient in the theories pertinent to Chinese Herbal Medicine and the clinical applications of Chinese *materia medica* for a wide variety of clinical situations and patient populations. At the completion of the 10 course survey, students will have learned over 300 individual herbs and over 150 different classical and patent formulae.

6. Movement and Respiration Studies

The seven (7) movement and respiration courses are designed to enhance the student's personal and energetic development. The student will be exposed to a wide variety of Asian movement practices that can be used to maintain their own and their patients' health care needs. In addition to the movement studies, three

courses in soft tissue treatment techniques are offered.

7. Counseling, communications and practice management

The four (4) specific courses in this area enhance the students' clinical skills, both in terms of diagnosing addressing patients' psychological health and in the area of best business practices. These courses help students learn the fundamental skills needed for private practice, ethical and legal considerations in health care and special considerations for practice in integrated care settings.

8. Clinical Services

The five (5) acupuncture clinical services courses and four (4) Chinese Herbology clinical services (for a total of nine – 9 – clinical experience courses) are designed to allow the student to develop clinical, interpersonal communication and decision-making skills. In addition, students learn professional conduct, efficiency and confidence in dealing with patients on a regular basis. From inception through the end of clinical training, the student has the opportunity to observe and work with advanced TCM practitioners as well as other health care professionals. This allows the student to understand how and when to make appropriate referrals. Clinical service rotations are available in the UBAI on-campus clinic as well as in community and hospital outreach clinical sites. By the end of clinical training, each student will have seen a minimum of 575 patient visits and will have completed 1190 hours of clinical training (830 hours in the acupuncture/general clinical care; 360 in the herbology clinic).

MS. Acupuncture with Chinese Herbology Requirements

Semester 1

	COURSE	LECT.	LAB	HRS.	CR.
ABS 511	Anatomy 1	4	0	72	4
ABS 515	Physiology 1	2	0	36	2
ATD 512	Traditional Chinese Medicine Theory	2	0	36	2
ATD 513	Traditional Chinese Diagnosis 1	2	0	36	2
ATD 511	Traditional Chinese History and Philosophy	1	0	18	1
AMR 511	Taijiquan 1	0	1.5	27	1

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APT 512	Meridian Theory	2	0	36	2
ACS 511	Evidence Informed Practice	1	0	18	1
APT 511	Point Location 1	1.5	1	45	2
AWB 501	UBAI Clinical Safety Procedures	0.5	0	9	0.5
Total:		16	2.5	333	17.5

Semester 2

COURSE	LECT.	LAB	HRS.	CR.
ABS 522 Anatomy 2	4	0	72	4
ABS 525 Physiology 2	2	0	36	2
ATD 524 Traditional Chinese Diagnosis 2	2	0	36	2
APT 523 Point Location 2	1.5	1	45	2
AMR 522 Taijiquan 2	0	1.5	27	1
ANT 521 Western Nutrition	2	0	36	2
AWB 521 TCM Safe Practices	1	1	45	1.5
AWB 523 Pharmacology	1	0	18	1
ATD 526 Seminar 1	1	0	18	1
Total:	14.5	3.5	333	16.5

Semester 3

COURSE	LECT.	LAB	HRS.	CR.
ACS 612 Clinical Diagnosis 1	3	2	90	4
ACS 611 Pathology 1	2	0	36	2
APT 614 Acupuncture Tech 1	2	2	72	3
AMR 613 Qigong 1	0	1.5	27	1
AHM 613 Traditional Chinese Dietetics	2	0	36	2
ACS 613 Lab Diagnosis	2	0	36	2
AHM 521 Botanical Medicine	2	0	36	2
ATD 529 Seminar 2	1	0	18	1
ACH 511 Chinese Formula and Constituents 1	2	0	36	2
ACS 711 Preceptorship 1	0	4	75	2
Total:	16	9.5	462	21

Semester 4

COURSE	LECT.	LAB	HRS.	CR.
ACS 623 Clinical Diagnosis 2	3	2	90	4
ACS 624 Pathology 2	3	0	54	3
APT 625 Acupuncture Techniques 2	2	2	72	3
AMR 624 Qigong 2	0	1.5	27	1
APS 621 Psych Assessment	2	0	36	2
APT 626 Auricular & Scalp Acupuncture	1	0	18	1
ACS 722 Preceptorship 2	0	4	75	2
ATD 727 Case Studies 1	1	0	18	1
AWB 621 Medical Ethics	1	0	18	1
ACH 512 Chinese Formulae and Constituents 2	2	0	36	2
Total:	15	9.5	444	20

Summer Session:

COURSE	LECT.	LAB	HRS.	CR.
ACS 631 Clinical Education 1	0	12	245	8
APT 637 Japanese Acupuncture Techniques 1	0	18	1	
AMR 627 Tuina 1	1	2	54	2
ACH 635 CH Formulae 1	2	0	36	2
ATD 711 Differential Diagnosis and Pathomechanisms	2	0	36	2
Total:	6	14	389	15

Semester 5:

COURSE	LECT.	LAB	HRS.	CR.
AMR 715 Tuina 2	1	2	54	2
ATD 715 Traditional Chinese Internal Medicine	2	0	36	2
ATD 728 Case Study 2	1	0	18	1

ATD 729 Acupuncture Gynecology	1	0	18	1
ATD 618 Seminar 3	1	0	18	1
ACH 523 Chinese Formulae & Constituents 3	2	0	36	2
ACS 712 Clinical Education 2	0	12	215	8
Total:	8	14	395	15

COURSE	LECT.	LAB	HRS.	CR.
AMR 726 Tuina 3	1	2	54	2
ATD 717 Advanced Pulse & Tongue Diagnosis	1	0	18	1
ACS 724 Public Health	2	0	36	2
APP 721 Practice Management	2	0	36	2
APT 718 Pediatric Acupuncture	1	0	18	1
ACH 524 Chinese Formulae and Constituents 4	2	0	36	2
ACS 723 Clinical Education 3	0	12	220	8
Total:	9.5	14	418	18

COURSE	LECT.	LAB	HRS.	CR.
ACH 636 Chinese Formulae 2	2	0	36	2
AHM 634 Dispensary Management	1	0	18	1
AHM 635 Pharmacognosy & Pharmacology of Chinese Herbs	1	0	18	1
ACC 611 Chinese Herb Clinic 1	0	4	130	2.5
Total:	4	4	202	6.5

COURSE	LECT.	LAB	HRS.	CR.
ACH 617 Chinese Formulae 3	2	0	36	2
ACH 619 CH Internal Medicine & Modifications 1	2	0	36	2
AHM 616 Ethical and ecological considerations of Chinese materia medica	1	0	18	1
ACC 632 Chinese Herb Clinic 2A	0	2	65	1.5
ACC 723 Chinese Herb Clinic 2B	0	2	65	1.5
Total:	5	4	220	8

COURSE	LECT.	LAB	HRS.	CR.
ACH 628 CH Internal Medicine & Modifications 2	2	0	36	2
ACH 641 CH Special Topics	2	0	36	2
ACC 724 Chinese Herb Clinic 3	0	4	100	2
Total:	4	4	172	6

Total All Semesters: 3368 hours 149 credits

MS-CH Curriculum

The Master of Science in Chinese Herbology degree program is two years in length (22 months) and is scheduled on a semester basis. The curriculum of this major consists of four (4) distinct areas:

1. HERBAL MEDICINE SURVEY:

The four (4) courses in herbal medicine and dietetics give the student a basic introduction to Chinese pharmacy and dis-

pensary practices, common OTC North American botanicals, the ethical consideration of utilizing sparse resources, and TCM clinical diet therapies. Information in the western botanical and pharmacy classes provides clear information regarding indications, contraindications and drug-herb interactions. The ethical and ecological impacts of TCM materia medica on the health of the individual and the world are explored. In addition, the course in dietetics and nutrition help the student understand the role of nutrition in patients' health.

2. ASIAN/CHINESE HERBOLOGY:

The ten (10) courses in Chinese Herbology offer the student a thorough understanding of Chinese Materia Medica, Classical and Patent formulas and modifications, and the clinical application of Chinese herbs and formulae. The student becomes proficient in the theories pertinent to Chinese Herbal Medicine and the clinical applications of Chinese materia medica for a wide variety of clinical situations and patient populations. At the completion of the 10 course survey, students will have learned over 300 individual herbs and over 150 different classical and patent formulae.

3. RELATED AREAS:

The three (3) required courses in ethics, TCM diagnosis and evidence-informed clinical practices help practitioners better understand their patients, the evidence for TCM therapies, possible interactions and the ethics related to TCM clinical practice.

4. CLINICAL EDUCATION:

The four (4) Chinese Herbology clinical services are designed to allow the student to develop clinical, interpersonal communication and decision-making skills. From inception through the end of clinical training, the student has the opportunity to observe and work with advanced TCM practitioners. Clinical service rotations are available in the UBAI on-campus clinic as well as in community outreach clinical sites. By the end of clinical training, each student will have seen a minimum of 200

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patient visits and will have completed 360 hours in the herbology clinic).

MS-CH Requirements

Semester 1:

	COURSE	LECT.	LAB	HRS.	CR.
AHM 613	TCM Dietetics	2	0	36	2
ACS 511	Evidence Informed Practices	1	0	18	1
ACH 511	Formulas and Individual Constituents 1	2	0	36	2
ACH 512	Formulas and Individual Constituents 3	2	0	36	2
ACC 611	Herb Clinic 1	0	4	130	2.5
Total:		7	4	256	9.5

Semester 2

	COURSE	LECT.	LAB	HRS.	CR.
ATD 524	TCM Diagnosis 2	2	0	36	2
ACH 523	Formulas and Individual Constituents 2	2	0	36	2
ACH 524	Formulas and Individual Constituents 4	2	0	36	2
AWB 621	Medical Ethics	1	0	18	1
ACC 632	Herb Clinic 2A	0	2	65	1.5
Total:		7	2	191	8.5

Summer Session

	COURSE	LECT.	LAB	HRS.	CR.
ACH 635	Chinese Formulae 1	2	0	36	2
ACH 636	Chinese Formulae 2	2	0	36	2
AHM 634	Dispensary Management	1	0	18	1
AHM 635	Pharmacognosy & Pharmacy of Chinese Herbs	1	0	18	1
Total:		6	0	108	6

Semester 3

	COURSE	LECT.	LAB	HRS.	CR.
ACH 617	Chinese Formulae 3	2	0	36	2
ACH 619	Internal Medicine & Modifications 12	0	36	2	
AHM 616	Ethical and ecological considerations of materia medica	1	0	18	1
ACC 723	Chinese Herb Clinic 2B	0	2	65	1.5
ACC 724	Chinese Herb Clinic 3	0	3	100	2
Total:		5	5	255	8.5

Semester 4

	COURSE	LECT.	LAB	HRS.	CR.
ACH 628	Internal Medicine & Modifications 2	2	0	36	2
ACH 641	Special Topics	2	0	36	2
Total:		4	0	72	4

Total All Semesters: 882 hours/36.5 credits

Electives:

	COURSE	LECT.	LAB	HRS.	CR.
ATD 511	TCM History/Phil.	1	0	18	1
AHM 521	Botanical Medicine	2	0	36	2
ATD 711	Differential Dx and Pathomechanisms	2	0	36	2

Doctor of Traditional Chinese Medicine (DAc.TCM) Curriculum

The Doctor of Science in Traditional Chinese Medicine degree program is four years in length (46 months) and is scheduled on a semester basis. The curriculum of this major consists of nine (9) distinct areas:

1. Acupuncture Practice and Techniques (APT):

The nine (9) acupuncture courses introduce students to the theoretical and practical information of acupuncture therapy. The student becomes proficient in the clinical applications of acupuncture, moxibustion, cupping, electrical stimulation, and bleeding techniques. The student learns to identify acupuncture points by anatomical location, palpation, and proportional measurement. The classification, function and indications for each acupuncture point are discussed and demonstrated. In addition to the twelve bilateral channels, two midline vessels and six other extra meridians, forbidden and contraindication of points are discussed. In addition, extra points, auricular points and other categories of acupuncture points are demonstrated and treatment techniques based on these extra meridians and points are discussed and practiced.

2. Asian Medicine Theory, Diagnosis and Application (ATD):

The thirteen (13) Asian medicine theory and diagnosis courses are designed to provide the student with an understanding of the scope, philosophy, theory and conceptual frame work of oriental medicine and how acupuncture specifically affects the body within the oriental treatment paradigms. Emphasis is placed on Traditional Chinese Medicine (TCM) diagnoses and effective treatment strategies.

3. Western Biomedicine (AWB):

The sixteen (16) biomedical courses are designed to train the student fully about biomedical terms, history taking, physical exam and laboratory diagnostic skills. The student learns how to make the appropriate referral and consultation, as well as the clinical relevance of laboratory and

diagnostic tests and procedures.

4. Herbal Medicine Survey (AHM):

The five (5) courses in herbal medicine and dietetics give the student a basic introduction to Chinese pharmacy and dispensary practices, common OTC North American botanicals, the ethical consideration of utilizing sparse resources, and TCM clinical diet therapies. Information in the western botanical and pharmacy classes provides clear information regarding indications, contraindications and drug-herb interactions. The ethical and ecological impacts of TCM materia medica on the health of the individual and the world are explored. In addition, the two courses in dietetics and nutrition help the student understand the role of nutrition in patients' health. (Note that the course in western nutrition is listed under Western Biomedicine: ANT 521 Nutrition.)

5. Asian/Chinese Herbology (ACH):

The ten (10) courses in Chinese Herbology offer the student a thorough understanding of Chinese Materia Medica, Classical and Patent formulas and modifications, and the clinical application of Chinese herbs and formulae. The student becomes proficient in the theories pertinent to Chinese Herbal Medicine and the clinical applications of Chinese materia medica for a wide variety of clinical situations and patient populations. At the completion of the 10 course survey, students will have learned over 300 individual herbs and over 150 different classical and patent formulae.

6. Movement and Respiration Studies:

The seven (7) movement and respiration courses are designed to enhance the student's personal and energetic development. The student will be exposed to a wide variety of Asian movement practices that can be used to maintain their own and their patients' health care needs. In addition to the movement studies, three courses in soft tissue treatment techniques are offered.

7. Counseling, communications

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and practice management:

The five (5) specific courses in this area enhance the students' clinical skills, both in terms of diagnosing addressing patients' psychological health and in the area of best business practices as well as ethical and legal considerations in health care. Additional courses in Clinical Procedures and Grand Rounds offer training for working in team-based care and practice in integrated care settings.

8. Integrated Clinical Practices

During the six (6) courses integrated clinical practice, students learn professional conduct, efficiency and confidence in dealing with patients, patient-centered care and integrated clinical decision making skills.

9. Clinical Services:

The five (5) acupuncture clinical services courses, four (4) Chinese Herbology clinical services, and two (2) Integrated clinical services courses (for a total of eleven – 11 – clinical experience courses) are designed to allow the student to develop clinical, interpersonal communication and decision-making skills, along with the ability to work in multidisciplinary and integrated clinical locations. In addition, students learn professional conduct, efficiency and confidence in dealing with patients, patient-centered care and integrated clinical decision making skills. From inception through the end of clinical training, the student has the opportunity to observe and work with advanced TCM practitioners as well as a number of other health care professionals. This allows the student to understand how and when to make appropriate referrals. Clinical rotations are available in the UBAI on-campus clinic as well as in community and hospital outreach clinical sites. By the end of clinical training, each student will have seen a minimum of 875 patient visits and will have completed 1400 hours of clinical training (610 hours in the acupuncture/general clinical care; 360 in the herbology clinic, 430 integrative care clinical hours).

DAC.TCM REQUIREMENTS

Semester 1

COURSE	LECT.	LAB	HRS.	CR.
ABS 511 Anatomy 1	4	0	72	4
ABS 515 Physiology 1	2	0	36	2
ATD 512 Traditional Chinese Medicine Theory	2	0	36	2
ATD 513 Traditional Chinese Diagnosis 1	2	0	36	2
ATD 511 Traditional Chinese History and Philosophy	1	0	18	1
AMR 511 Taijiquan 1	0	1.5	27	1
APT 512 Meridian Theory	2	0	36	2
ACS 511 Evidence Informed Practice	1	0	18	1
APT 511 Point Location 1	1.5	1	45	2
AWB 501 UBAI Clinical Safety Procedures	0.5	0	9	0.5

Total: 16 2.5 333 17.5

Semester 2

COURSE	LECT.	LAB	HRS.	CR.
ABS 522 Anatomy 2	4	0	72	4
ABS 525 Physiology 2	2	0	36	2
ATD 524 Traditional Chinese Diagnosis 2	2	0	36	2
APT 523 Point Location 2	1.5	1	45	2
AMR 522 Taijiquan 2	0	1.5	27	1
ANT 521 Western Nutrition	2	0	36	2
AWB 521 TCM Safe Practices	1	1	45	1.5
AWB 523 Pharmacology	1	0	18	1
ATD 526 Seminar 1	1	0	18	1

Total: 14.5 3.5 333 16.5

Semester 3

COURSE	LECT.	LAB	HRS.	CR.
ACS 612 Clinical Diagnosis 1	3	2	90	4
ACS 611 Pathology 1	2	0	36	2
APT 614 Acupuncture Tech 1	2	2	72	3
AMR 613 Qigong 1	0	1.5	27	1
AHM 613 Traditional Chinese Dietetics	2	0	36	2
ACS 613 Lab Diagnosis 1	2	0	36	2
AHM 521 Botanical Medicine	2	0	36	2
ATD 529 Seminar 2	1	0	18	1
ACH 511 Chinese Formulae and Constituents 1	2	0	36	2
ACS 711 Preceptorship 1	0	4	75	2
ACS 641 Diagnostic Imaging	2	0	36	2

Total: 18 9.5 498 23

Semester 4

COURSE	LECT.	LAB	HRS.	CR.
ACS 623 Clinical Diagnosis 2	3	2	90	4
ACS 624 Pathology 2	3	0	54	3
APT 625 Acupuncture Techniques 2	2	2	72	3
AMR 624 Qigong 2	0	1.5	27	1
APS 621 Psych Assessment	2	0	36	2
APT 626 Auricular & Scalp Acupuncture	1	0	18	1
ACS 722 Preceptorship 2	0	4	75	2
ATD 727 Case Studies 1	1	0	18	1
AWB 621 Medical Ethics	1	0	18	1
ACH 523 Chinese Herb Formulae and Constituents 3	2	0	36	2
ACS 625 Physical Exam	2	0.5	45	2
ACS 626 Laboratory Diagnosis 2: Nutritional and functional analyses	2	0	36	2

Total: 19 10 525 24

Summer Session

COURSE	LECT.	LAB	HRS.	CR.
ACS 631 Clinical Education 1	0	12	245	8
APT 637 Japanese Acupuncture Techniques	1	0	18	1
AMR 627 Tuina 1	1	2	54	2
ACH 635 CH Formulae 1	2	0	36	2
ACS 731 Clinical Procedures	2.0.5	0	369	20.5
ATD 711 Differential Diagnosis and Pathomechanisms	2	0	36	2

Total: 8 14 425 17

Semester 5

COURSE	LECT.	LAB	HRS.	CR.
AMR 715 Tuina 2	1	2	54	2
ATD 715 Traditional Chinese Internal Medicine	2	0	36	2
ATD 728 Case Study 2	1	0	18	1
ATD 729 Acupuncture Gynecology	1	0	18	1
ATD 618 Seminar 3	1	0	18	1
ACH 512 Chinese Formulae and Constituents 2	2	0	36	2
ACS 712 Clinical Education 2	0	12	215	8
ACS 715 Physical and Functional Assessments of the UB Health Sciences	2	0	36	2

Total: 10 14 431 19

Semester 6

COURSE	LECT.	LAB	HRS.	CR.
AMR 726 Tuina 3	1	2	54	2
ATD 717 Advanced Pulse & Tongue Diagnosis	1	0	18	1
ACS 724 Public Health	2	0	36	2
APP 721 Practice Management	2	0	36	2
APT 718 Pediatric Acupuncture	1	0	18	1
ACH 524 Chinese Formulae and Constituents 4	2	0	36	2
AWB 725 Pharmacology 2	2	0	36	2

Total: 11 2 234 12

Summer Session

COURSE	LECT.	LAB	HRS.	CR.
ACH 636 Chinese Formulae 2	2	0	36	2
AHM 634 Dispensary Management	1	0	18	1
AHM 635 Pharmacognosy & Pharmacology of Chinese Herbs	1	0	18	1
ACC 611 Chinese Herb Clinic 1	0	4	130	2.5

Total: 4 4 202 6.5

Semester 7

COURSE	LECT.	LAB	HRS.	CR.
ACH 617 Chinese Formulae 3	2	0	36	2
ACH 619 CH Internal Medicine & Modifications 1	2	0	36	2
AHM 616 Ethical and ecological considerations of Chinese materia medica	1	0	18	1
ACC 632 Chinese Herb Clinic 2A	0	2	65	1.5
ACC 723 Chinese Herb Clinic 2B	0	2	65	1.5
ACS 811 Grand Rounds 1	2	0	36	2
ACS 812 Integrated Clinical Education 1	0	10	215	6

Total: 7 14 471 16

Semester 8

COURSE	LECT.	LAB	HRS.	CR.
ACH 628 CH Internal Medicine & Modifications 2	2	0	36	2

Total: 2 0 36 2

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ACH 641	CH Special Topics	2	0	36	2
ACC 724	Chinese Herb Clinic 3	0	4	100	2
ATD 742	TCM Geriatrics	1	0	18	1
ACS 823	Grand Rounds 2	2	0	36	2
APP 722	Professional Development	1.5	0	27	1.5
ACS 814	Integrated Clinical Education 2	0	10	215	6
Total:		8.5	14	468	16.5

TOTAL: 116 didactic credits; 77 lab credits; 3956 hours; 166 total credits

Clinical Training: 150 observation hours; 460 acupuncture clinic hours; 360 TCM herbal clinical hours; 430 Integrative clinic hours; 1400 total clinical training hours

OPTIONAL CLINIC HOURS: 220 acupuncture clinic hours

DAc.TCM Program: 1400 total clinical training hours/2556 didactic training hours

Note: For additional information about admissions requirements and procedures, transfer credit policies, rules and regulations for student conduct, attendance policies, grading policies, satisfactory performance and degree completion requirements, please see the Acupuncture Institute website and Acupuncture Institute Student Handbook which are official publications for these degree programs.

School of Chiropractic

Health Sciences Center
60 Lafayette St., Room 319
Telephone: (203) 576-4278
Fax: (203) 576-4483

Chiropractic is the philosophy, art, and science which concerns itself with the relationship between structure and function of the human body, as that relationship may affect the restoration and preservation of health. The School of Chiropractic prepares students to be primary portal of entry health care providers. Each student is educated to arrive at a diagnosis, care for the human body, understand and relate fundamental scientific information, and to consult with, or refer to other health care providers.

The University of Bridgeport School of Chiropractic (UBSC) is a non-profit, coeducational professional institution which grants the Doctor of Chiropractic (D.C.) degree to graduates who successfully complete four academic years of study including a clinical clerkship. The program is offered on a full-time basis.

All requirements for the D.C. degree must be completed within seven years from the date of matriculation.

Degree

Doctor of Chiropractic (D.C.)

Accreditation & Membership

The doctor of chiropractic degree program of the University of Bridgeport School of Chiropractic is accredited by the Commission on Accreditation of the Council on Chiropractic Education (CCE), 8049 N. 85th Way, Scottsdale, AZ 85258, 480-443-8877. The School of Chiropractic is also a member of the Association of Chiropractic Colleges (ACC).

Mission Statement

To educate chiropractic students to be successful providers of highly-competent, patient-centered care by utilizing best practice educational methodologies, engaging in relevant scholarly activities, and providing effective service to our University, College, and local communities.

Curriculum

A Doctor of Chiropractic is a physician whose purpose is to meet the health needs of the public as a member of the healing arts. He/she gives particular attention to the relationship of structural and neurological aspects of the body and is educated in the basic and clinical sciences as well as related health subjects. Chiropractic science concerns itself with the relationship between structure (primarily the spine), and function (primarily coordinated by the nervous system) of the human body and how that relationship affects the restoration and preservation of health.

"The DCP of the University of Bridgeport incorporates the understanding of chiropractic as a profession, practicing primary health care, providing curricular and clinical evidence of that through outcome measures, and consists of education and training to prepare graduates to:

- A. Practice direct contact health care as a primary portal-of-entry provider for patients of all ages and genders;
- B. Assess the patient's general health status, complaints and problems leading to a diagnosis. Specific elements of patient assessment minimally include a complete health history; review of systems; physical exam, biomechanical and neurological examination; analysis of vertebral and extra-vertebral joint function; and, when clinically indicated, diagnostic imaging, clinical laboratory, and/or specialized diagnostic procedures;
- C. Develop a goal-oriented case management plan that addresses any joint misalignment/function or other neurobiomechanical problems which may include rehabilitation and/or other therapeutic modalities;
- D. Develop appropriate doctor/patient relationships with continuity in the chiropractic management of health problems, and coordination of care with other health-care providers; and
- E. Promote wellness by assessing health risks and providing problem-related, general and public health information, and lifestyle counseling.

The purpose of chiropractic professional

education is to provide the student with a core of knowledge in the basic and clinical sciences and related health subjects sufficient to perform the professional obligations of a doctor of chiropractic.

A doctor of chiropractic is a primary portal-of-entry physician and practitioner of the healing arts, to help meet the health needs of individual patients and of the public, giving particular attention to the structural and neurological aspects of the body.

The application of science in chiropractic concerns itself with the relationship between structure, primarily the spine, and function, primarily coordinated by the nervous system of the human body, and how that relationship affects the restoration and preservation of health.

Further, this application of science focuses on the inherent ability of the body to heal without the use of drugs or surgery.

As a gatekeeper for direct access to the health care delivery system, the doctor of chiropractic's responsibilities as a primary care physician include wellness promotion, health promotion, health assessment, diagnosis and the chiropractic management of the patient's health care needs. When indicated, the doctor of chiropractic consults with, co-manages, or refers to other health care providers. "An accredited Doctor of Chiropractic Program (DCP) prepares its graduates to practice as primary portal-of-entry chiropractic physicians, and provides curricular and clinical evidence of such through outcome measures." (From the Council on Chiropractic Education Standards for DCPs, July 2013).

It is the purpose of the University of Bridgeport School of Chiropractic program to offer, as a minimum, those courses and objectives as suggested in the CCE standards. It is also the purpose of the UBSC program to offer a broad-based educational experience. In many cases, the educational program presented will go beyond the course offerings suggested by CCE and will also go beyond individual state laws and scope of practice.

The University of Bridgeport School of Chiropractic curriculum is divided into three phases: Basic Sciences, Clinical Sciences, and Clinical Services.

School of Chiropractic

Semester Based Curriculum

(18 WEEK PROGRAM PER SEMESTER)

YEAR ONE

SEMESTER ONE

NUMBER	COURSE	LECT.	LAB	SEM	CR.
AN 511	Cell and Tissue Microscopic Anatomy and Physiology	3	0	54	3
AN 512	Functional Anatomy and Biomechanics I: Spinal Anatomy	3	3	108	4.5
PP 511	Principles and Practice I: Chiropractic History and Philosophy	2	0	36	2
BC 511	Biochemistry, Metabolism, and Nutrition	2	0	36	2
PP 512	Principles and Practice II: Introduction to Evidence Based Practice	2	0	36	2
AN 513	General Anatomy I: Viscera	3	3	108	4.5
TE 511	Chiropractic Examination Skills I: Palpation and Biomechanics of the Spine and Pelvis	2	0	36	2
TE 511L	Chiropractic Examination Skills I: Palpation and Biomechanics of the Spine and Pelvis Lab	0	3	54	1.5
AN 514	Clinical Embryology I	1	0	18	1
		18	9	486	22.5

SEMESTER TWO

NUMBER	COURSE	LECT.	LAB	SEM	CR.
DI 521	Diagnostic Imaging I: Normal Anatomy	2	2	72	3
PH 521	Organ System Microscopic Anatomy and Physiology I	2	0	36	2
NS 521	Neuroscience I	3	0	54	3
PP 523	Principles and Practice III: Contemporary Chiropractic Studies	2	0	36	2
AN 525	General Anatomy II: Head and Neck	3	3	108	4.5
AN 526	Functional Anatomy II: Extremities	3	3	108	4.5
MB 521	Clinical Microbiology I: Introduction to Infectious Diseases	2	0	36	2
TE 522	Chiropractic Examination Skills II: Palpation and Biomechanics of the Extremities	2	0	36	2
TE 522L	Chiropractic Examination Skills II: Palpation and Biomechanics of the Extremities Lab	0	3	54	1.5
		19	11	540	24.5

YEAR TWO

SEMESTER THREE

NUMBER	COURSE	LECT.	LAB	SEM	CR.
NS 612	Neurosciences II	3	0	54	3
PA 611	Fundamentals of Pathology	2	1	54	2.5
PH 612	Organ System Microscopic Anatomy and Physiology II	4	2	108	5
MB 612	Clinical Microbiology II: Infectious Diseases	2	0	36	2
TE 613	Technique Procedures I: Introduction to Full Spine Technique	1	0	18	1

TE 613L	Technique Procedures I: Introduction to Full Spine Technique Lab	0	3	54	1.5
DX 612	Diagnostic Skills II: Orthopedic and Neurology	2	0	36	2
DX 612L	Diagnostic Skills II: Orthopedic and Neurology Lab	0	4	72	2
DX 611	Diagnostic Skills I: Physical Examination	2	0	36	2
DX 611L	Diagnostic Skills I: Physical Examination Lab	0	3	54	1.5
DI 612	Diagnostic Imaging II: Normal Anatomy	1	2	54	2
BC 612	Biochemistry, Metabolism and Nutrition II	2	0	36	2
		19	15	612	26.5

PH 713	Toxicology & Pharmacology	2	0	36	2
TE 717L	Technique Procedures V: Soft Tissue II	0	2	36	1
ER 711	Emergency Procedures	1	2	54	2
RS 711	Evidence Based Practice I	0	0	0	1
PS 711	Clinical Psychology	2	0	36	2
PP 715	Principles and Practice V: Ethics	1	0	18	1
		18	14	576	26

SEMESTER SIX

NUMBER	COURSE	LECT.	LAB	SEM	CR.
DI 725	Diagnostic Imaging V: Chest and Abdomen	1	2	54	2
TE 728	Technique Procedures VI: Advanced Chiropractic Technique I	2	0	36	2
TE 728L	Technique Procedures VI: Advanced Chiropractic Technique I Lab	0	3	54	2
DI 726	Diagnostic Imaging VI: Positioning and Physics	2	2	72	3
DD 722	Differential Diagnosis II: Neuromusculoskeletal	4	0	72	4
PT 722	Physiological Therapeutics II: Rehabilitation	2	0	36	2
PT 722L	Physiological Therapeutics II: Rehabilitation Lab	0	2	36	1
DX 725	Special Populations	3	0	54	3
CS 721	Clinical Science I	2	4	108	4
MB 724	Public Health II: Community Health and Wellness	2	0	36	2
BP 721	Documentation and Insurance Protocols: Billing and Coding	1	0	18	1
BP 722	Business Procedures	1	0	18	1
RS 722	Evidence Based Practice II	0	0	0	1
		20	14	594	28

YEAR FOUR

SEMESTER SEVEN

NUMBER	COURSE	LECT.	LAB	SEM	CR.
CS 812	Clinical Services II	0	25	450	12.5
DI 827	Diagnostic Imaging VII: X-Ray Review	2	0	36	2
TE 819	Technique Procedures VII: Advanced Chiropractic Technique II	1.5	3	81	3
BP 813	Starting a Chiropractic Practice and Office Management	1	0	18	1
RS 813	Evidence Based Practice III: Clinical Case Studies	0	0	0	1
		4.5	28	585	19.5

SEMESTER EIGHT

NUMBER	COURSE	LECT.	LAB	SEM	CR.
CS 823	Clinical Services III	0	25	450	12.5
RS 824	Evidence Based Practice IV: Completion and Submission	0	0	0	1.5
		0	25	450	14
NUMBER	COURSE	LECT.	LAB	SEM	CR.
CS 824	Clinical Services IV (Six weeks) Summer Session	0	0	150	4

School of Chiropractic

NMSM post-doctoral program

The Neuromusculoskeletal Medicine Online Clinical Training Program (NMSM) is a post-doctoral online education pathway for becoming a board-certified chiropractic specialist. Completion of the NMSM with required grade point average offers eligibility to sit the International Academy of Neuromusculoskeletal Medicine (IANM) Board Examination, which leads to Diplomate status (DIANM). The Neuromusculoskeletal Medicine Online Clinical Training Program (NMSM) is comprised of four distinct types of online learning activity, with a total of 304 student learning hours:

1. eLearning Episodes (case-based video masterclasses that integrate history, examination, diagnosis, management and inter-professional communication)
2. Diagnostic Drills (case-based clinical problem-solving activities – emphasizing the diagnostic thinking process)
3. Communication Drills (case-based professional communication activities – emphasizing inter-professional communication skills)
4. Online Clinical Masterclasses (recordings of live seminars professionally edited and formatted into case-based online learning programs)

Fones School of Dental Hygiene

Health Sciences Center
60 Lafayette Street
Telephone: (203) 576-4138
Fax: (203) 576-4220

Degree Programs

Dental Hygiene (A.S., B.S., B.S. Degree Completion, M.S.D.H.)

Description

The Fones School of Dental Hygiene, established in 1949 at the University of Bridgeport, was named for Dr. Alfred Civilion Fones, the dentist who was instrumental in creating the profession of dental hygiene in 1913. Accredited since the American Dental Association publication of September, 1953, the Fones program is in full accord with the principles established by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Post-Secondary Accreditation and the United States Department of Education. The graduate is eligible for National, Regional, and State examinations in each of the fifty United States, and students earning the Associate's degree may apply their credits towards a Bachelor's degree.

Accreditation

The A.S., B.S., and M.S.D.H. degree programs in Dental Hygiene are both licensed and accredited by the State of Connecticut Office of Higher Education.

Dental Hygiene Associate in Science Degree

Health Sciences Center
60 Lafayette Street
Telephone: (203) 576-4138
Fax: (203) 576-4220

Curriculum and Program Requirements

As licensed professional oral health clinicians and educators, dental hygienists practice as members of the dental team, using knowledge of biomedical, dental, clinical, and social sciences to assist individuals and groups in achieving and maintaining optimum oral health. The hygienist provides preventive services, preliminary examinations, radiographs, sealants, non-surgical periodontal therapy, fluoride treatments, Local anesthesia and patient education. As a specialist, the dental hygienist is an integral co-therapist in helping consumers prevent oral disease, arrest existing periodontal (gum) disease, and maintain oral health.

The curriculum of the Fones School of Dental Hygiene provides a broad educational preparation program with a combination of general education and dental hygiene courses. In addition to basic and dental science theory, the program provides education in prevention service and dental health education. Students enter the two-year clinical program following pre-requisites completed through a pre-dental hygiene year or as transfer students into the University.

Dental Hygiene clinic instruments and supplies are issued through the Fones School. These items are distributed throughout the clinical phase of the curriculum, the costs of which are included within the Dental Hygiene special fees.

During the second clinical year, the students receive skills-based education, not only at the Fones Dental Hygiene Health Center on campus, but also through assignments at clinical and educational facilities of school dental health programs, hospitals and community agencies. These assignments are directly supervised by Fones faculty. Students are responsible for providing their own transportation to community agencies.

All courses listed in the dental hygiene curriculum program for the Associate and/or Bachelor of Science degree are required

for graduation. The Dental Hygiene student must earn a grade of "C" in all major courses. A student that earns a grade of C- or below in a course in the major field, must obtain a written statement from the School Director specifying the procedure necessary to remedy the deficiency and remain in the major. Enrollment in the second year is contingent on completing all first year requirements and achieving a cumulative QPR of 2.0.

Qualifications and procedures required of applicants to the Fones School are the same as those described in the chapter on Admissions. Dental Hygiene clinical courses begin in the fall term and the Associate's degree curriculum is open only to full-time Dental Hygiene students. Clinical students are required to submit a physical, dental, visual acuity report and current cardiopulmonary resuscitation/recognition certification on an annual basis. Student must also submit evidence of Hepatitis B vaccine series seroconversion and PPD tuberculin test. All admitted students are subject to a background check and drug screening. This procedure will be conducted by the outside agency Verified Credentials, Inc. All information is maintained confidentially.

Learning Outcomes

Through completion of the entry-level dental hygiene curriculum students will achieve the following outcomes:

- Characterize professionalism and responsibility in all health promotion and disease prevention activities.
- Apply a professional code of ethics while adhering to appropriate legal and regulatory measures when providing oral health services.
- Utilize critical thinking, problem solving, and evidence-based decision making in the dental hygiene process of care.
- Provide the dental hygiene process of care (assessment, dental hygiene diagnosis, planning, implementation, evaluation, documentation) for patients/clients in all settings.
- Communicate effectively with and deliver culturally competent, inter-professional health care to individuals and groups from diverse populations.
- Demonstrate the knowledge necessary

to assess, plan, implement and evaluate community-based oral health programs.

- Continually perform self-assessment to maintain professional standards and encourage life-long learning.
- Value the need for personal and professional growth through participation in professional activities and associations.
- Understand and master the competencies of Dental Hygiene Professional Practice.

Students will demonstrate professionalism, ethical behavior, evidenced-based decision making, competent client care, health promotion, and disease prevention. A set of competencies has been developed to verify ability to perform total client care and develop professionally. Students must demonstrate successful completion of these competencies in order to graduate. Completion of competencies confirm that the student has the ability to safely provide dental hygiene care at an entry level, or what is minimally expected in performance as a new graduate. As a licensed professional who continues in his/her career, experience and continued learning leads one in becoming proficient, or eventually, even an expert in the delivery of care. The Fones School of Dental Hygiene Competencies are posted on the University Website.

Students learn the skills and knowledge necessary to function effectively as an integral member of the dental health team. The program utilizes the facilities of the University of Bridgeport Health Clinics Fones School of Dental Hygiene Health Center, area hospitals, and community health clinics. Specialized course work must be taken in the outlined sequence. DHYG designated courses are open to admitted dental hygiene students only. A minimum grade of C or better (74 or above) is required in ALL dental hygiene courses.

Summary of Requirements

PROGRAM REQUIREMENTS

DHYG 123	Oral Anatomy and Embryology	4
DHYG 124	Dental Radiology	3
DHYG 127	Pharmacology for the Dental Hygienist	3
DHYG 129	Clinical Practice I	4
DHYG 130	Clinical Practice II	4
DHYG 140	Introduction to Periodontology	2
DHYG 201	Summer Clinic	1

Dental Hygiene Associate in Science Degree

DHYG 222	Dental Public Health I	3
DHYG 227	Clinical Practice III	4.5
DHYG 228	Clinical Practice IV	5
DHYG 230	Local Anesthesia	1.5
DHYG 232	Dental Public Health II	1
DHYG 233	Oral and General Histo-Pathology	3
DHYG 241	Periodontology	2
DHYG 250	Dental Materials	3
HSC 230	Fundamentals of Nutrition	3
		47

GENERAL EDUCATION REQUIREMENTS		
BIOL 106	Elementary Microbiology	4
BIOL 113-114	Anatomy and Physiology I/II	8
CHEM 113	Intro Chem w/lab or equivalent	4
ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3
MATH 103	Intro to College Algebra and Statistics	3
PSYC 103	Introduction to Psychology	3
SOC 101	Principles of Sociology	3
		31
Total Semester Hours		78

Program Prerequisites

BIOL 106	Elementary Microbiology	4
BIOL 113-114	Anatomy and Physiology I/II	8
CHEM 113	Intro Chem w/lab or equivalent	4
ENGL 101	Academic Writing	3
MATH 103	Intro to College Algebra and Statistics	3

Suggested Program

FIRST SEMESTER		
DHYG 123	Oral Anatomy and Embryology	4
DHYG 124	Radiology	3
DHYG 129	Clinical Practice I	4
HSC 230	Fundamentals of Nutrition	3

SECOND SEMESTER		
DHYG 127	Pharmacology for the Dental Hygienist	3
DHYG 130	Clinical Practice II	4
DHYG 140	Introduction to Periodontology	2
DHYG 250	Dental Materials	3
	Comm, Hum, SocSc, FAC	3

SUMMER I SESSION		
DHYG 201	Summer Clinic	1
DHYG 230	Local Anesthesia	1.5

THIRD SEMESTER		
DHYG 222	Dental Public Health I	3
DHYG 227	Clinical Practice III	4.5
DHYG 233	Oral and General Histo-Pathology	3
DHYG 241	Periodontology	2

FOURTH SEMESTER

DHYG 228	Clinical Practice IV	5
DHYG 232	Dental Public Health II	1
PSYC 103	Introduction to Psychology	3
SOC 101	Principles of Sociology	3
Total Semester Hours		78

EMPLOYMENT OPPORTUNITIES

Upon completion of the dental hygiene curriculum, graduates are eligible to take the Dental Hygiene National Board Examination and licensure exams in every state, the District of Columbia, Puerto Rico, Canada and abroad. Graduates are eligible for positions in private dental offices, public health programs, school health programs, dental hygiene education and research. In addition, the dental hygiene program provides instruction in advanced procedures to broaden capabilities for clinical practice.

FONES DENTAL HEALTH CLINIC SERVICES

Preventive and therapeutic oral health services are provided by students in the dental health clinic. Services for the public include oral prophylaxis, x-ray, non-surgical treatment of periodontal (gum) disease, fluoride treatments, sealants and patient education in the care of the mouth. Individuals desiring information should inquire about the availability of services with the dental hygiene clinic receptionist at (203) 576-4137.

Dental Hygiene Bachelor of Science Degree

Health Sciences Center
60 Lafayette Street
Telephone: (203) 576-4138
Fax: (203) 576-4220

Curriculum and Program Requirements

Students in the Bachelor of Science Degree (B.S.) may integrate bachelor's courses with the clinical aspect of the Dental Hygiene curriculum or pursue a baccalaureate degree (B.S.) after completing clinical preparation at the Associate of Science/Certificate Level. This baccalaureate degree completion approach is available to Fones' students as well as graduates of other Dental Hygiene programs accredited by the American Dental Association Commission on Dental Accreditation.

Education at the baccalaureate level enhances the dental hygienist' opportunities, abilities, background and values. The professional dental hygiene curriculum is combined with a liberal arts education, and is designed to foster student growth, promote development of critical and ethical judgment, and encourage life-long learning. Upon satisfactory completion of semester hours in the areas of study specified, the student will be recommended for the degree of Bachelor of Science in Dental Hygiene.

General Education Track

This program option has been developed for those students who have semester hours beyond the Associate's degree and are interested in a broad general education. Students have the opportunity to shape their own curriculum to meet personal career goals. The outcome of this planning process is an individualized program that enables the dental hygienist to gain desired knowledge and skills and directly transfer this expertise to a professional work setting. Students may identify a minor in such areas as human services, marketing and biology to name a few.

Learning Outcomes

In addition to the learning outcomes of the entry-level dental hygiene curriculum, through completion of the Bachelor of Science Degree in dental hygiene, students will achieve the following outcomes:

- Communicate effectively through written, oral, and electronic means
- Apply scientific inquiry to foster critical

thinking and reflective reasoning in all initiatives

- Participate in domestic and global collaborative efforts that allow for expanded and/or alternative career opportunities
- Develop, lead, and manage programs and strategies responsive to the diverse cultural and ethnic values and traditions of the communities served
- Instill the desire to pursue graduate level education

Summary of Requirements

PROGRAM REQUIREMENTS

DHYG 123	Oral Anatomy and Embryology	4
DHYG 124	Dental Radiology	3
DHYG 127	Pharmacology for the Dental Hygienist	2
DHYG 129	Clinical Practice I	4
DHYG 130	Clinical Practice II	4
DHYG 140	Introduction to Periodontology	1
DHYG 201	Summer Clinic	1
DHYG 222	Dental Public Health I	3
DHYG 227	Clinical Practice III	4.5
DHYG 228	Clinical Practice IV	5
DHYG 230	Local Anesthesia	1.5
DHYG 232	Dental Public Health II	1
DHYG 233	Oral and General Histo-Pathology	3
DHYG 241	Periodontology	2
DHYG 250	Dental Materials	3
DHYG 301	Dental Hygiene Practice Management	3
DHYG 302	Instructional Strategies for the Health Professional	3
DHYG 303	Advanced Clinical Concepts	3
DHYG 304	Dental Hygiene Internship	3-6
DHYG 305	Dental Hygiene Research	4
DHYG 315	Statistical Reasoning	3
HSC 230	Fundamentals of Nutrition	3
		64

GENERAL EDUCATION REQUIREMENTS

BIOI 106	Elementary Microbiology	4
BIOI 113-114	Anatomy and Physiology I/II	8
CAPS C390	Capstone Seminar	3
SOSC	Social Sciences Core	3
ENGL 101	Academic Writing	3
FA	Fine Arts Core	3
HUM	Humanities Core	6
MATH 103	Intro to College Algebra and Statistics	3
SOC 101	Principles of Sociology	3
FYS 101	First Year Seminar	3
MKTG 205	Principle of Marketing OR	
HUSV 201	Introduction to Counseling	3
CHEM 113	Intro to Chemistry	4
PSYC 103	Introduction to Psychology	3
		49
	ELECTIVES	5
	Total Semester Hours	120

Suggested Program

FIRST SEMESTER

MATH 103	Intro to College Algebra Stats	3
BIOI 113	Anatomy & Physiology I	4
ENGL 101	Academic Writing	3
BIOI 106	Microbiology	4
FYS 101	First Year Seminar	3

SECOND SEMESTER

BIOI 114	Anatomy & Physiology II	4
CHEM 113	Introduction to Chemistry	4
SOC 101	Principles of Sociology	3
PSYC 103	Introduction to Psychology	3
DHYG 100	Intro to Dental Hygiene	1

THIRD SEMESTER

DHYG 123	Oral Anatomy & Embryology	4
DHYG 124	Dental Radiology	3
DHYG 129	Clinical Practice I	4
HSC 230	Funadamentals of Nutrition	3

FOURTH SEMESTER

DHYG 127	Pharmacology for DH	3
DHYG 130	Clinical Practice II	4
DHYG 140	Intro Periodontology	2
DHYG 250	Dental Materials	3
DHYG 301	Dental Hygiene Practice Mgmt	3

SUMMER I SESSION

DHYG 201	Summer Clinic	1
DHYG 230	Local Anesthesia	1.5

FIFTH SEMESTER

DHYG 222	Dental Public Health I	3
DHYG 227	Clinical Practice III	4.5
DHYG 233	Oral and General Histo-Pathology	3
DHYG 241	Periodontology	2
FA	Fine Arts	3

SIXTH SEMESTER

DHYG 228	Clinical Practice IV	5
DHYG 232	Dental Public Heath II	1
DHYG 303	Advanced Clinical Concepts	3
HUM	Humanities	3
SOSC	Social Science	3

SEVENTH SEMESTER

DHYG 302	Inst Strategies/Health Prof	3
DHYG 315	Statistical Reasoning	3
HUM	Humanities	3
HUSV 201	Intro to Counseling	
or MKTG 205	Principle of Marketing	3

EIGHTH SEMESTER

DHYG 304	Dental Hygiene Internship	3
DHYG 305	Dental Hygiene Research	4
CAPS 390	Capstone	3
	Electives	4

Total Program Credits required 120

I-All incoming students must take English Placement tests to determine level of courses to be taken: ENG 100 or 101

II-Students who transfer in more than 12 credits may substitute FYS 101 with another acceptable UB core course.

III-Prerequisite or concurrent course for DHYG 305

Dental Hygiene Bachelor of Science Degree Online Program

Health Sciences Center
60 Lafayette Street
Telephone: (203) 576-4138
Fax: (203) 576-4220

Description

The online B.S. in Dental Hygiene from The Fones School of Dental Hygiene at the University of Bridgeport offers an opportunity for dental hygienists to further their education beyond the A.S. degree.

Students who hold an A.S. or certificate in Dental Hygiene from an institution accredited by the American Dental Association Commission on Dental Accreditation are eligible for admission. A maximum of 90 credits from accredited institutions of higher education may be transferred. The program consists of 120 credit hours which include applicable transfer credits (60-90 credit hours), general education courses (40 credit hours), dental hygiene courses (19 credit hours), and elective courses (9 credit hours). The last 30 credit hours must be completed through the University of Bridgeport. The general education courses include University Core Requirements in English, Math, Fine Arts, Integrated Studies, Humanities, Natural Science, Social Science, and Capstone Seminar.

Students may take 2 online courses per 7-week session, which is equivalent to 12 credits per semester. Financial aid is available for qualified students taking at least 6 credits per semester.

Learning Outcomes

In addition to the learning outcomes of the entry-level dental hygiene curriculum, through completion of the Bachelor of Science Degree in dental hygiene, students will achieve the following outcomes:

- Communicate effectively through written, oral, and electronic means
- Apply scientific inquiry to foster critical thinking and reflective reasoning in all initiatives
- Participate in domestic and global collaborative efforts that allow for expanded and/or alternative career opportunities

- Develop, lead, and manage programs and strategies responsive to the diverse cultural and ethnic values and traditions of the communities served
- Instill the desire to pursue graduate level education.

Program Requirement

DHYG 301	Dental Hygiene Practice Management	3
DHYG 302	Instructional Strategies for the Health Professional	3
DHYG 303	Advanced Clinical Concepts	3
DHYG 304	Dental Hygiene Internship	3-6
DHYG 305	Dental Hygiene Research	4
DHYG 315	Statistical Reasoning	3
BIOL 113	A&P I	4
BIOL 114	A&P II	4
BIOL 106	Microbiology	4
PSYC 103	Intro to Psychology	3
SOC 101	Principles of Sociology	3
MKTG 205	Principles of Marketing	3
HUM	Humanities Core	6
FA	Fine Arts Core	3
SOSC	Social Science Core	3
CAPS 390	Capstone Seminar	3
	Electives	9-12

ONLINE ORIENTATION

All students participate in an online orientation prior to beginning the program. During the orientation, students are given instructions on how to navigate the CANVAS course management system, strategies for being a successful online student, and access to other University resources, including the Wahlstrom Library's electronic databases. Successful completion of the orientation is required of all new students in the online program.

INSTRUCTIONAL FORMAT

The online B.S. in Dental Hygiene is offered in a format that makes classes available 24 hour a day, 7 days a week. Courses are designed for working professionals and can be completed entirely online.

To participate in UB's distance education program, you must own or have regular access to a computer with an Internet connection and an e-mail account. You should be comfortable with using e-mail, sending, and receiving attachments, and Web browsing.

MINIMUM COURSE REQUIREMENTS

- A PC or Macintosh system
- PC with Windows Vista or higher, Mac OSx10, 5.2 or higher
- Word processor, printer, CD-ROM
- Reliable Internet access
- E-mail
- web camera and microphone

Dental Hygiene Master of Science Degree Online Program

Health Sciences Center
60 Lafayette Street
Telephone: (203) 576-4138
Fax: (203) 576-4220

Degree Purpose and Objectives

The purpose of the Master's Degree in Dental Hygiene (MSDH) is to prepare registered dental hygienists for leadership roles in the areas of education, administration, public health and dental hygiene practice. This commitment is met within a multidisciplinary framework that inter-relates theory, research, and practical experience. The program seeks to educate its students to develop and conduct research that adds to the body of knowledge that advances the mission of dental hygiene. By providing a high level of professional education, the program will produce graduates with critical thinking and commitment to the service of others. Through academic courses, independent study, research and practical experience, graduate candidates are prepared to meet the present demand for dental hygiene leaders, practitioners, educators, oral health promoters, administrators/managers and researchers.

The objectives of the Master's degree program are to:

- Develop expertise in a specialized area of dental hygiene.
- Expand knowledge and skills to support advanced dental hygiene practice and role development in preventive and therapeutic oral health services.
- Expand knowledge in oral health promotion and education related to a specific functional role in dental hygiene.
- Develop managerial and administrative skills.
- Contribute to the dental hygiene scientific body of knowledge
- Acquire initial competence in conducting oral health research.
- Further develop and implement leadership strategies for the betterment of oral healthcare.

- Participate in graduate dental hygiene internship experiences in educational settings, rural areas, industry and community outreach sites.
- Build a foundation for future doctoral education.

Through completion of the MSDH program, graduates will achieve the following learning outcomes:

- Utilize scientific inquiry, critical thinking, and research methodology in developing contemporary theory and best practice.
- Cultivate the incorporation of existing and emerging health informatics and technology within ones profession.
- Contribute to and facilitate development of programs based on population need, diversity, and social and cultural sensitivity.
- Promote inter-professional collaboration within an integrated delivery system of health care.
- Forge the pathway toward expanding the professional landscape of dental hygiene.
- Instill the desire to pursue doctoral level education.

Curriculum

PROGRAM REQUIREMENTS

NUMBER	COURSE	CREDITS
DHYG 500	Leadership in Dental Hygiene	3
DHYG 501	Grant and Contract Writing	3
DHYG 502	Research	3
DHYG 503	Clinical and Didactic Educational Concepts	3
DHYG 504	Dental Hygiene Student Teaching	3
DHYG 506	Global Health Care	3
DHYG 508	Curriculum Development and Management	3
DHYG 512	Public Health	3
DHYG 513	Contemporary Issues in Dental Hygiene	3
DHYG 515	Statistical Reasoning	3
DHYG 516	Concentrated Practicum	3
DHYG 520	Dental Hygiene Capstone	4

SUGGESTED CURRICULUM SEQUENCE

FIRST YEAR

Summer:

DHYG 500	Leadership
DHYG 501	Grant and Contract Writing

Fall:

DHYG 502	Research
DHYG 506	Global Health Care

Spring:

DHYG 508	Curriculum Development and Management
DHYG 515	Statistical Reasoning

SECOND YEAR

Summer:

DHYG 516	Concentrated Practicum
DHYG 503	Clinical and Didactic Educational Concepts

Fall:

DHYG 504	Student Teaching in Dental Hygiene
DHYG 512	Public Health

Spring:

DHYG 520	Dental Hygiene Capstone
DHYG 513	Contemporary Issues in Dental Hygiene

After completing the two years of course work the Master's Degree Candidate will continuously register for DHYG 521 Dental Hygiene Capstone Extension (1 credit) until the thesis or professional project has been successfully completed. Upon successful completion of all course work, the master student will be certified for graduation.

Note: For additional information about admissions requirements and procedures, transfer credit policies, rules and regulations for student conduct, attendance policies, grading policies, satisfactory performance and degree completion requirements, please see the Fones School of Dental Hygiene website and Fones School of Dental Hygiene Student Handbook, which are official publications for these degree programs.

General Studies Bachelor of Science Degree

Dana Hall
Telephone: (203) 576-4268

Program Description

The Bachelor of Science degree in General Studies is for the student who wishes great flexibility in pursuing college work as well as for the student with well defined goals. The candidate for the B.S. Program will "custom-make" his or her course of study, which may include interdisciplinary work that does not fit well into conventional degree programs. Planning and revision of the programs will be done with a faculty advisor. Many graduates holding this degree have been accepted for advanced work by other institutions. However, since graduate school admissions policies vary greatly depending upon the program and institution, students contemplating graduate study should inform themselves of such requirements.

Learning Outcomes

By completing the program in General Studies, students will: 1) be able to communicate effectively in writing so that one may advance professionally and apply to graduate programs; 2) be able to comprehend, analyze, and interpret texts in a variety of disciplines; 3) be able to present orally one's own thoughts and plans; 4) be able to recognize a problem and devise a plan of action to solve it; 5) be able to show mastery of several disciplines within an academic area of concentration; and 6) demonstrate an ethical mindset and exercise professional responsibility in a global context.

Degree Requirements

1. A minimum of 120 hours with minimum cumulative quality point ratio of 2.00.
2. The student must have an area of concentration with a minimum of 30 semester hours (no maximum), in one of the following areas: Business Studies; Humanities; Natural Science/Mathematics; Science, Engineering, or Computer Related Fields; and Social Sciences. Students may also elect a second area of concentration. A grade of "C" or above is required in all courses used to fulfill this requirement. No more than four 100 level courses can

- be counted in an area of concentration.
3. At least half of the semester hours to be counted in the area of concentration must be completed at the University of Bridgeport.
 4. Students may not take core courses or courses counting in an area of concentration or a minor on a pass/fail basis. The University policy on pass/fail courses limits this option to a maximum of six courses (two courses per semester) during a student's academic career, for free electives only.
 5. General Studies majors may include one or more minors in their programs. Courses used to fulfill requirements for a minor may not be counted in an area of concentration.

GENERAL STUDIES, BACHELOR OF SCIENCE DEGREE

Summary of Requirements

PROGRAM REQUIREMENT

Approved Area of Concentration for the B.S. within Divisions. A minimum of 30 semester hours is required in one of the following categories (see item 2 under degree requirements):

HEALTH SCIENCES

Biology
Chemistry
Dental Hygiene
Health Sciences (Community Health, Exercise and Fitness, and Nutrition)
Medical Laboratory Science.

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
MATH Core or	Demonstrated Math Competency	3
FYS 101	First Year Seminar	3
FA	Fine Arts Core	3
HUM	Humanities Core	6
SCI	Natural Sciences Core	6
SOSC	Social Sciences Core	6
CAPS C390	Capstone Seminar	3
	Liberal Arts Requirements	9
		42

Total Semester Hours 120

Note: An online (or hybrid) program is available for this major, and follows the same requirements.

Health Sciences Bachelor of Science Degree

Charles Dana Hall
Telephone: (203) 576-4268
Fax: (203) 576-4262

Curriculum and Program Requirements

The B.S. in Health Sciences program prepares students for application to professional programs in the health sciences. Such programs range from medical school and physician assistant programs, to programs in chiropractic and public health to medicine, as well as nutrition, acupuncture, and pharmacy. Many of these career options can be pursued in the University's professional programs.

The program offers tracks (concentrations) in community health education, exercise and fitness, and nutrition for students who desire to enter these fields at the entry level.

The program affords this range of options primarily through a liberal arts orientation toward these professions. Thus, all students take a foundation of common courses in biology, chemistry, physics, and mathematics, as well as special general education courses such as biological psychology and healthcare ethics.

A primary conviction of the program is that one of the most pressing challenges of the twenty-first century is to provide adequate healthcare to the growing and aging population. Whether students prepare for professional school application and admission, or entry level opportunities, all are encouraged to develop a philosophy of care consistent with the University's mission.

Learning Outcomes

As a result of completing the B.S. in Health Sciences, graduates will be able to apply principles of health and wellness as a lifelong process of learning grounded in the study of basic sciences and the behavioral arts. The students will:

- Understand fundamental biological, chemical, and physical properties underlying life systems
- Be able to gather and analyze research data and make inferences based on the data
- Be aware of professional, ethical, and pri-

vacy issues that are pertinent to careers in the health sciences

- Exercise and Fitness students will understand the relationship between exercise and wellness maintenance and be skilled at developing appropriate fitness programs for diverse populations.
- Nutrition students will understand principles of human nutrition and the relationship to health and wellness using evidence based strategies.
- Community health education students will understand principles to help people assume more responsibility for their health and well being through educational development, implementation and evaluation of community health programs.
- Pre-professional students will be broadly prepared to enter professional schools and to successfully meet school admissions criteria.

GENERAL EDUCATION REQUIREMENTS

The following General Education courses are required of all Health Science concentrations:

ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3
PHIL 110	Healthcare Ethics	3
PSYC 103	Introduction to Psychology	3
MATH	Math Core	3
BIOL 113	Anatomy and Physiology I	4
HUM	Humanities Core	3
SOSC	Social Science Core	3
FA	Fine Arts Core	3
MATH 203/203B	Statistics/Biostatistics	4
CAPS 390	Capstone Seminar	3
Total Semester Hours Required		35

Concentration Requirements & Suggested Programs

Each concentration requires specific additional courses.

PRE-PROFESSIONAL AND TRACK-SPECIFIC COURSE REQUIREMENTS

In addition to the requirements above, the pre-professional advisement sequence and specific tracks require additional General Education and Track-Specific courses:

PRE-PROFESSIONAL CORE

ENGL 102	Intro to Literature	3
BIOL 100	Biology Study Skills	3
BIOL 102	Cell-Molecular Biology	4
BIOL 106	Microbiology	4
BIOL 114	Anatomy and Physiology II	4
MATH 109	Pre-Calculus	3
CHEM 103	General Chemistry I	4
CHEM 104	General Chemistry II	4
BIOL 307	Genetics	3
CHEM 205	Organic Chemistry I	4
CHEM 206	Organic Chemistry II	4
CHEM 360	Biochemistry	4
PHYS 201	General Physics	3
HSCI Electives		10
Total Semester Hours Required		57

All phases of pre-professional study are customized with courses that meet the student's needs for professional programs in the health sciences.

COMMUNITY HEALTH EDUCATION TRACK

BIOL 106	Microbiology	4
BIOL 114	Anatomy and Physiology II	4
CHEM 113	Introduction to Chemistry	4
CHEM 114	Introduction to Biochemistry	4
HSCI 327	Grant Proposal Writing	3
HSCI 240	Theory of Community Health Education	3
HSCI 255	Community Health Planning & Evaluation	3
HSCI 280	Community Health Promotion	3
HSCI 330	Health Care Administration	3
HSCI 326	Health Policy and Management	3
HSCI 386	Health Sciences Research Methods	3
HSCI 455	Health Sciences Senior Project	3
HSCI 385	Community Health Internship	3
HSCI	Electives	12
Electives		12
Total Semester Hours Required		67
Total		120

SUGGESTED PROGRAM – COMMUNITY HEALTH EDUCATION

FRESHMAN YEAR

FALL SEMESTER

ENG 101	Academic Writing	3
FYS 101	First Year Seminar	3
PSYC 103	Intro to Psychology (SS)	3
MATH 106	College Algebra	3
HSCI 101	Seminar in Health Care Prof	1
HSCI 201	Medical Terminology	1
Total Hours:		14

Health Sciences Bachelor of Science Degree

SPRING SEMESTER

PHIL 110	Health Care Ethics (HUM)	3
FA	Fine Arts Core	3
HSCI 260	Intro to Exercise Science	3
NUTR 205	Fundamentals of Nutrition	3
HSCI 250	Intro to Community Health	3
HSCI 102	Current Topics in Hlth Sci	1
Total Hours:	16 (30)	

SPRING SEMESTER

HSCI 385	Community Health Intern	3
CAPS C390	Capstone	3
HSCI	Elective	3
HSCI	Elective	3
ELEC	Elective	3
	Total Hours:	15 (120)

SOPHOMORE YEAR

FALL SEMESTER

CHEM 113	General Chemistry I	4
BIO 113	Anat & Physiology I	4
SOSC	Social Sciences Core	3
HUM C201	Humanities Core	3
HSCI 201	Global Public Health	3
HSCI 240	Theory of Comm Hlth Educ	3
Total Hours:	146 (46)	

SPRING SEMESTER

HSCI 321	Exercise Science A&P	4
CHEM 114	General Chemistry II	4
PHYS 201	General Physics	4
HSCI 365	Epidemiology for HS Prof	3
MATH 203B	Biostatistics Lab	1
Total Semester Hours Required		16

SOPHOMORE YEAR

FALL SEMESTER

BIO 113	Anat & Physiology I	4
SOSC	Social Sciences Core	3
HUM C201	Humanities Core	3
HSCI 201	Global Public Health	3
HSCI 240	Theory of Comm Hlth Educ	3
Total Hours:	146 (46)	

SPRING SEMESTER

BIO 114	Anat & Physiology II	4
BIOL 106	Microbiology	4
HSCI 255	Comm Hlth Plan & Eval	3
HSCI 280	Community Hlth Promotion	3
Total Hours:	14 (60)	

JUNIOR YEAR

FALL SEMESTER

CHEM 113	Intro to Chemistry	4
MATH 203/B	Statistics/Biostatistics	4
HSCI 365	Epidemiology for HS Prof	3
	Elective	3
Total Hours:	14 (74)	

SPRING SEMESTER

CHEM 114	Intro to Biochemistry	4
HSCI 326	Health Policy & Mgmt	3
HSCI 330	Health Care Admin	3
HSCI 386	Health Sciences Research Methods	3
	Elective	3
Total Hours:	16 (90)	

SENIOR YEAR

FALL SEMESTER

HSCI 401	Health Sciences Info Lit	3
HSCI 327	Grant Proposal Writing	3
HSCI	Elective	3
HSCI	Elective	3
	Elective	3
Total Hours:	15 (105)	

EXERCISE AND FITNESS CONCENTRATION

BIOL 100	Biology Study Skills	3
BIOL 102	Cellular Molecular Biology	4
CHEM 113	General Chemistry I	4
CHEM 114	General Chemistry II	4
PHYS 201	General Physics	4
PSYC 355	Sports Psychology	3
HSCI 301	Intro to Exercise Science	3
HSCI 321	Exercise Physiology	4
HSCI 331	Kinesiology	3
HSCI 341	Strength and Conditioning	3
HSCI 351	Fitness & Wellness	3
	Program Development	3
HSCI 471	Exercise Nutrition	3
PSYC 355	Sports Psychology	3
HSCI 401	Health Sciences	3
	Information Literature	3
HSCI 361	Fitness Assessment	3
HSCI 381	Internship	3
HSCI	Electives	9
SCI	Electives	6
	Exercise and Fitness Concentration	67
Total		120

SUGGESTED PROGRAM – EXERCISE AND FITNESS CONCENTRATION

FRESHMAN YEAR

FALL SEMESTER		
BIOL 100	Biology Study Skills	3
MATH	Math Core	3
HSCI 201	Medical Terminology	1
ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3
HSCI 101	Seminar in Health Care Professions	1

Total Semester Hours Required		14
SPRING SEMESTER		
PHIL 110	Healthcare Ethics	3
NUTR 205	Fundamentals of Nutrition	3
HSCI 260	Intro to Exercise Science	3
BIOL 102	Cellular Molecular Biology	4
PSYC 103	Intro to Psychology	3

Total Semester Hours Required 16

SENIOR YEAR

FALL SEMESTER

HSCI 381	Internship	3
CAPS 390	Capstone Senior Seminar	3
	Science or HS Elective	6
HSCI 471	Exercise Nutrition	3
Total Semester Hours Required		15

SPRING SEMESTER

PSYC 321	Research Methods	3
SCI	Elective	3
HSCI	Electives	6
HUM Core	Humanities Core Elective	3
Total Semester Hours Required		15

Health Sciences Bachelor of Science Degree

NUTRITION CONCENTRATION

ACCT 101	Principles of Accounting	3
BIOL 100	Biology Study Skills	3
BIOL 102	Cellular Molecular Biology	4
BIOL 106	Microbiology	3
BIOL 114	Anatomy & Physiology II	4
CHEM 113	Introduction to Chemistry	4
CHEM 114	Introduction to Biochemistry	4
PSYC 321	Research Methods	3
HUM	Core Humanities Elect	3
HSCI 320	Food Sanitation	3
HSCI 345	Comparative Diet Strategies	3
HSCI 350	Community Nutrition	3
HSCI 351	Fitness & Wellness	
	Program Development	3
HSCI 370	Clinical Herbology and Botany	3
HSCI 380	Nutrition Internship	3
HSCI 420	Food Service Management	3
HSCI 460	Vitamins and Minerals	3
HSCI	Electives	6
SCI	Electives	6
	Nutrition Concentration	68
Total		120

SUGGESTED PROGRAM – NUTRITION CONCENTRATION

FRESHMAN YEAR

FALL SEMESTER

ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3
HSCI 101	Seminar in Health Care Professions	1
BIOL 100	Biology Study Skills	3
MATH	Math Core	3
HSCI 201	Medical Terminology	1
Total Semester Hours Required		15

SPRING SEMESTER

PHIL 110	Healthcare Ethics	3
NUTR 205	Fundamentals of Nutrition	3
ACCT 101	Prin of Accounting	3
PSYC 103	Intro to Psychology	3
BIOL 102	Cellular Molecular Biology	4
HSCI 102	Current Topics in HS	1
Total Semester Hours Required		17

SOPHOMORE YEAR

FALL SEMESTER

Biol 113	Anatomy & Physiology I	4
CHEM 113	Intro to Chemistry I	4
MATH 203	Statistics	3
HSCI 250	Intro to Public Health	3
FA	Fine Arts Core	3
Total Semester Hours Required		15

SPRING SEMESTER

CHEM 114	Intro to Biochemistry	4
BIOL 114	Anat & Physiology II	4
HSCI 260	Intro to Exercise Science	3
HSCI 345	Comparative Diet Strategies	3
MATH 203B	Biostatistics Lab	1
Total Semester Hours Required		15

JUNIOR YEAR

FALL SEMESTER

HSCI 370	Clinical Herbology & Botany	3
HUM	Humanities Core	3
BIOL 106	Intro to Microbiology	4
PSYC 321	Research Methods	3
SOSC	Social Science Core	3
Total Semester Hours Required		16

SPRING SEMESTER

HSCI 320	Food Safety & Sanitation	3
HSCI 350	Community Nutrition	3
HSCI 351	Fitness & Wellness	
	Program Development	3
HSCI 365	Epidemiology for HS Prof	3
HSCI	Elective	3
Total Semester Hours Required		15

SENIOR YEAR

FALL SEMESTER

HSCI 420	Food Service Management	3
HSCI 460	Vitamins and Minerals	3
HSCI or SCI	Elective	3
HSCI	Elective	3
HUM	Humanities Core	3
Total Semester Hours Required		15

SPRING SEMESTER

CAPS 390	Capstone Senior Seminar	3
HSCI 380	Nutrition Internship	3
HSCI 401	HS Information Literature	3
HSCI or SCI	Elective	3
Total Semester Hours Required		12

Health Sciences Doctor of Health Sciences

C. Dana Hall Room 142
Telephone (203) 576-4260
Fax: (203)576-4051

Program Overview

The Doctor of Health Sciences (D.H.Sc.) is a terminal academic degree program that can be described as a combination of the Doctor of Science (D.Sc.) and the Doctor of Public Health (DPH) degrees. The goal is to provide a solid foundation in the health sciences while developing skills in research design and analysis, best-practices in clinical care and education. It is envisioned to contribute significantly to the personal and professional growth of healthcare professionals and educators. This program offers students with master's degrees the opportunity for continuing academic training and advancement in their fields. There are currently three areas of concentration: clinician, nutrition and education. The Doctor of Health Sciences is an academic degree and not a clinical healthcare degree, but one which prepares healthcare professionals with tools of administration and scholarship. The goals are to enable health professionals to become better clinicians, teach in colleges and universities, or become health care administrators. For those interested in research, this program provides the foundation for both qualitative and quantitative research as core values in the educational process.

Concentration Areas

This D.H.Sc. program is currently designed with three tracks:

- 1) Clinician track
- 2) Nutrition track
- 3) Education track

Students will have the option of taking courses from other tracks, as electives.

This program has the potential to grow and add new tracks as demands and needs arise in the future.

Outcomes of the Program

- Become leaders with the skills and knowledge to initiate changes in healthcare environments
- Have the ability to analyze and influence public policy related to healthcare services

- Possess the skills necessary to effectively utilize evidence to support best practice clinical decisions
- Have the knowledge to integrate evidence-informed complementary medicine modalities into care delivery
- Have the ability to use research to solve problems and make ethical decisions in healthcare settings.
- Effectively serve as consultants to patients, clients, community organizations, and professional colleagues
- Generate more professors with improved higher education pedagogy

Dissertation

DISSERTATION PROCESS

Upon the successful completion of all online coursework, a student enters the dissertation phase of the Doctor of Health Sciences program. The dissertation phase includes three (3) required courses: HSCI 890: Dissertation Seminar, HSCI 891: Dissertation I, and HSCI: 892: Dissertation II. Each course is graded Pass/Fail. The dissertation topic can be an area of interest selected by the student, with the approval of their adviser and the Program Director. To complete the degree, students must take the required dissertation sequence and submit their dissertation which must be accepted and approved by a dissertation committee, and then by the Program Director. The dissertation for the D.H.Sc. degree may involve original research, or it can be a research paper, literature review, meta-analysis, or a systematic review. The dissertation is a high-quality scholarly paper, presenting the student's research and findings, that is submitted in support of candidature for the Doctor of Health Sciences degree.

DISSERTATION COMMITTEE

At the beginning of HSCI-891: Dissertation I, each student will be assigned a faculty advisor who will also act as their committee chairperson. The dissertation committee will be formed, during HSCI-892 Dissertation II, after the adviser determines that the dissertation is ready to be submitted to a committee. The dissertation committee will consist of a minimum of three qualified faculty members. At least two members of the committee should be from the faculty of the University of Bridgeport. All committee members must

possess a terminal degree and have some expertise in the area. An individual who is not a member of the University of Bridgeport faculty, but possesses the required qualifications, may serve as a third member on the committee with the approval of the Program Director.

The student will work closely with their dissertation adviser/committee chairperson, who will be responsible for supervising the student's work and guiding the student through the process.

The responsibility of the entire committee is to examine the dissertation to make a final determination concerning its acceptability. After the dissertation receives unanimous approval from the committee, it is then sent to the Program Director for final review and approval.

COURSE REQUIREMENTS (61 CREDITS)

CORE COURSES

HSCI 710	(3 Credits) Introduction to the U.S. Health Care System
HSCI 715	(3 Credits) Research Methods for the Health Sciences
HSCI 720	(3 Credits) Global Health Issues
HSCI 725	(3 Credits) Fundamentals of Clinical Trials
HSCI 730	(3 Credits) Healthcare Informatics
HSCI 735	(3 Credits) Data Analysis and Interpretation Clinical Concentration
HSCI 840	(3 Credits) Advanced Disease Processes and Treatment
HSCI 845	(3 Credits) Lifestyle and Health Issues
HSCI 850	(3 Credits) Health Promotion and Disease Prevention
HSCI 855	(3 Credits) Integrative and Complementary Medicine

NUTRITION CONCENTRATION

HSCI 851	(3 Credits) Advanced Clinical Nutrition I: Metabolic Health Issues and Cardiovascular Health
HSCI 852	(3 Credits) Advanced Clinical Nutrition 2: Digestive Health Issues
HSCI 853	(3 Credits) Advanced Clinical Nutrition 3: Chronic Degenerative Diseases and Cancer
HSCI 854	(3 Credits) Advanced Clinical Nutrition 4: Neurological and Behavioral Issues

EDUCATION CONCENTRATION

HSCI 848	(3 Credits) Teaching in the Health Professions
HSCI 849	(3 Credits) Educational Assessment
HSCI 858	(3 Credits) Curriculum and Syllabus Development in Higher Education
HSCI 859	(3 Credits) Pedagogy and Teaching Strategies for College Instructors

ELECTIVE COURSES

HSCI 860	(3 Credits) Evidence-Based Practice
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Health Sciences Doctor of Health Sciences

HSCI 865 (3 Credits) Principles of Health Policy and Management

HSCI 870 (3 Credits) Principles of Environmental Toxicology

HSCI 875 (3 Credits) Infectious Diseases

HSCI 888 (3 Credits) Medical Toxicology

HSCI 889 (3 Credits) Comparative Health Systems

DISSERTATION COURSES

HSCI 890 (3 Credits) Dissertation Seminar

HSCI 891 (3 Credits) Dissertation I

HSCI 892 (3 Credits) Dissertation II

HSCI 895 (4 Credits) On Campus Seminar

Completion of Doctoral Degree

The doctoral degree must be completed within seven years of the date from which the student started coursework in the doctoral program. In exceptional cases, the department may recommend that the Dean grant an extension of this limit.

Master of Public Health Master's of Health Sciences

The Master of Public Health (MPH) degree program is offered 100% online and is designed to prepare Public Health practitioners for complex local, national and global issues in contemporary Public Health. The objective is to promote equity, inquiry, health, and well-being, as well as develop thoughtful leaders by providing a relevant and innovative competency-based curriculum.

There are three concentrations in the University of Bridgeport's MPH program;

- Global Health
- Community Health
- Health Policy and Management

The program consists of 42 semester credit hours; 33 core credits and 9 concentration credits and can be completed in 15 months by taking courses in an accelerated 7 week format.

Mission Statement

The mission of the public health program is to develop the next generation of public health professionals to advance health equity and promote individual, family, and community health through innovative education, community service, and research. The program provides an atmosphere whereby its diverse student population can grow intellectually by promoting critical thinking skills, personal development, and community involvement. The Public Health curriculum provides an educational foundation upon which each student may continue to build his/her professional public health career by integrating theory and research into public health practice.

All of our Professors are Public Health practitioners with a significant body of knowledge and years of experience. The program prepares its graduates for a variety of roles in public health administration, policy, and advocacy through content that engages both the science and practice of public health management.

MPH career options:

- Policy analysis in health planning organizations and governmental agencies
- Health maintenance organizations
- Public Health Officer

- Non-profit Executive Director
- Epidemiologist
- Congressional Staffer
- Biostatistician
- Health Promotion Specialist
- Researcher
- Emergency management
- Health insurance companies
- Occupational health and safety services
- Public Health education
- Environmental Health Officer
- Healthcare Administrative and management positions in:
 - o Hospitals
 - o Clinics
 - o State and local health departments
 - o Nursing homes
 - o Mental health facilities

curriculum requirements. UB Graduate programs require that all grades applied toward the degree be "C" or better. The grade of "C" cannot be used to satisfy degree requirements. The minimum cumulative grade point average necessary to continue graduate studies is 3.0 and the minimum semester grade point average to continue graduate studies is 2.0.

MPH PROGRAM CORE (W/CONCENTRATIONS) CREDIT HR

MPH CORE

MPH 501 Introduction to Public Health	3
MPH 502 Principles of Epidemiology	3
MPH 503 Biostatistics	3
MPH 505 Research Methods	3
MPH 504 Public Health Policy	3
MPH 506 Social and Behavioral Aspects of Health	3
MPH 507 Introduction to Environmental Health	3
MPH 508 Global Public Health	3
MPH 510 Emergency Management Health Issues	3
MPH 512 Infectious Diseases	3
MPH 560 Applied Practical Experience	3
Core Total	33

Global Health Concentration

MPH 520 Global Health Issues	3
MPH 521 Program Planning for Global Health	3
MPH 522 Essentials of Economics and Finance for Global Health	3
Total	9

Community Health Concentration

MPH 530 Community Health Issues	3
MPH 531 Program Planning, Research and Evaluation for Community Health	3
MPH 532 Urban Health and Social Policy	3
Total	9

Health Policy And Management Concentration

MPH 540 Health Economics and U.S. Policy	3
MPH 541 Public Health Law	3
MPH 542 Public Health Policy as a Prevention Strategy	3
Total	9

MPH Program Total **42**

Graduation requirements

Students must complete all MPH program

Medical Laboratory Science Bachelor of Science Degree

Dana Hall
Telephone (203) 576-4268
Fax: (203) 576-4262

Clinical Director
Dana Hall, Room 213
Telephone: (203) 576-4253
Fax: (203) 576-4262

Curriculum and Program Requirements

A B.S. degree in Medical Laboratory Science provides exciting opportunities for individuals with an interest in science who wish to pursue a career in a health/medical profession or other laboratory-related field. Medical Technologists, also called Clinical Laboratory Scientists, analyze human blood and other body fluids using a variety of methods and precision instruments. The results of these analyses are used to determine the presence or absence of disease, help determine appropriate treatment, monitor therapy, and assess health. In addition to performance and interpretation of laboratory procedures, clinical laboratory scientists may be involved in the selection of lab methods or analyzers, as well as training, supervision, and consultation with other health care professionals.

The program is currently licensed by the state of CT to offer a program and pending national program accreditation, completion of the degree will lead to eligibility for certification by the Board of Registry of the American Society of Clinical Pathology as a Medical Laboratory Scientist.

Granting of the degree/certificate IS NOT contingent on passing any type of external certification or licensure examination.

The UB Medical Laboratory Science program is pursuing accreditation through the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N. River Rd., Suite 720, Rosemont, IL 60018-5119

Learning Outcomes

Upon successful completion of this program, students will:

Be proficient in performing the full range of clinical laboratory tests in areas such as hematology, clinical chemistry, immunohematology, microbiology, serology/immunology,

coagulation, molecular, and other emerging diagnostics.

Be able to participate in the development and evaluation of test systems and interpretive algorithms, hold diverse.

Responsibilities in areas of analysis and clinical decision-making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

Possess basic knowledge, skills, and relevant experiences in consultative interactions with members of the healthcare team, external relations, customer service and patient education; financial, operations, marketing, and human resource management; information management, and; research design/practice sufficient to evaluate published studies as an informed consumer.

Be proficient in maintaining necessary operations for the general functions of the clinical laboratory, including specimen collection.

Program Requirements and Features

Completion of the Medical Laboratory Science degree requires 28 weeks of supervised clinical work in a hospital laboratory, provided by our clinical affiliates.

Since the curriculum includes laboratory work done under professional supervision, the degree candidate not only must satisfy the customary expectations of academic work but also must meet the high-quality standards demanded of a professional medical technologist. Students must maintain a minimum GPA of 2.50. MT students are required to maintain a grade of C or better in all required courses. MT students must pass a comprehensive pre-clinical examination prior to pursuing their clinical rotations.

Individual professional liability insurance is required of each student and can be purchased through American Society for Clinical Laboratory Science (ASCLS).

Criminal background checks are required before clinical rotations. A background check that is not "clear" may preclude rotations at some hospitals and prevents employment at most healthcare facilities.

As a closure requirement for graduation, students must pass a comprehensive department examination covering all aspects of

clinical laboratory science. However, issuing of the degree is not contingent on passing any type of external certification or licensure examination.

Pre-Physician Assistant and Health Professional Options

The Medical Laboratory Science curriculum contains courses which can meet prerequisites for UB's Physician Assistant program. Successful graduates of the Medical Laboratory Science program are also highly competitive for other medical, health, and research oriented graduate programs.

MEDICAL LABORATORY SCIENCE MINOR OPTION

Biology majors wishing to obtain a minor in Medical Laboratory Science must take BIOL 102, BIOL 320, BIOL 332, BIOL 345, BIOL 443, CHEM 360, CHEM 380, and at least two 300 level MLS courses. Students interested in this program should contact the Medical Laboratory Science Program Director. A minor in Medical Laboratory Science will not lead to eligibility for certification as a Medical Laboratory Scientist.

Medical Laboratory Certificate: A categorical certificate option for people already possessing a BS degree and meeting the necessary pre-requisites is available and requires a customized plan of study, please see the program director for further information and a consultation.

Summary of Requirements

PROGRAM REQUIREMENTS

MEDICAL LABORATORY SCIENCE COURSES

MLSC 341	Immunology	4
MLSC 332	Medical Bacteriology	4
CHEM 380	Physiological Chemistry	4
MLSC 314	Intro to Immunohematology	2
MLSC 310	Intro to Hematology/Hemostasis	2
BIOL 345	Molecular Biology	3
MLSC 311	Intro to Clinical Chemistry	2
MLSC 317	Mycology/Parasite/Virology	4
MLSC 301	Phlebotomy/Safety	2
MLSC 350	Advanced Hematology	3
MLSC 355	Advanced Clinical Chemistry	2
MLSC 354	Advanced Immunohematology	2
MLSC 320	Preclinical Seminar	1
MLSC 321	Clinical Seminar I Education	1
MLSC 322	Clinical Seminar II Mgmt	1
MLSC 380	Phlebotomy Rotation	2

Medical Laboratory Science Bachelor of Science Degree

MLSC 388	Clinical Correlations (Clinical)	2	CHEM 104	General Chemistry II	4	MLSC 388	Clinical Correlations	2
MLSC 384	Clinical Chem Lab Rotation	5	BIOL 211	General physiology	4	MLSC 380	Phlebotomy Rotation	1
MLSC 386	Clinical Immunohematology		PHIL 110	HUHealthcare Ethics	3	MLSC 393	Clinical Research	1
	Laboratory Rotation	3			17	MLSC 386	Clinical Immunohemo Rotation	3
MLSC 382	Clinical Hematology Lab Rotation	4				MLSC 385	Clinical Microbiology Rotation	4
MLSC 385	Clinical Micro Lab Rotation	4						14
		57						

SOPHOMORE YEAR

Fall Semester

PSYC 380SS	Biological Psychology	3
MLSC 315	Fundamentals MLS	2
SS, Social Science, HU Humanities or Fine Arts Core		3
CHEM 205	Organic Chemistry I	4
MATH 203/203B	Biostatistics	4
CHEM 206	Organic Chemistry II	4
CHEM 302	Analytical Methods	4
CHEM 360	Biochemistry	3
CHEM 380	Physiologic Chemistry	3
BIOL 320	Microbiology	4
PHYS 201	General Physics I*	4
BIOL 307	Genetics*	3
		16
31-38		
	BIOLOGICAL PSYCHOLOGY	
	ORGANIC CHEMISTRY I	
	ANALYTICAL METHODS	
	BIOCHEMISTRY	
	PHLEBOTOMY	
	MICROBIOLOGY	
		17

Total Semester Hours **129**

SCIENCE FOUNDATION COURSES

BIOL 102	General Biology II	4
BIOL 211	General Physiology	4
CHEM 205	Organic Chemistry I	4
MATH 203/203B	Biostatistics	4
CHEM 206	Organic Chemistry II	4
CHEM 302	Analytical Methods	4
CHEM 360	Biochemistry	3
CHEM 380	Physiologic Chemistry	3
BIOL 320	Microbiology	4
PHYS 201	General Physics I*	4
BIOL 307	Genetics*	3

*Recommended courses.

GENERAL EDUCATION REQUIREMENTS

ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3
MATH 109	Precalculus	4
CHEM 103	General Chemistry I	4
CHEM 104	General Chemistry II	4
PHIL 110	Healthcare Ethics	3
HUM	Humanities Core	3
PSYC 380	Biological Psychology	3
SOSC	Social Science Core	3
FA	Fine Arts Core	3
CAPS 390	Capstone	3
		36

Total Semester Hours **121-128**

Suggested Program

FRESHMAN YEAR

Fall Semester

ENGL 101	Academic Writing	3
FYS 101	First Year Seminar	3
MATH 109	Precalculus	4
CHEM 103	General Chemistry I	4
BIO 102	General Bio 102	4
		18

Spring Semester

SS, 1Social Science, 1HU Humanities
or Fine Arts Core

JUNIOR YEAR

BIO 380	Molecular Diagnostics	3
MLSC 341	Immunology	4
MLSC 332	Medical Bacteriology	4
CHEM 380	Physiological Chemistry	4
MLSC 310	Intro to Hematology/Hemostasis	2
		17

Spring Semester

BIOL 345	Molecular Biology	3
MLSC 311	Intro to Clinical Chemistry	3
MLSC 317	Mycology/Parasite/Virology	4
MLSC 320	Pre-clinical Seminar	1
MLSC 314	Intro to Immunohematology	2
CAPS 390	Capstone	3
		16

SENIOR YEAR (CLINICALS)

MLSC 355	Advanced Clinical Chemistry	2
MLSC 350	Advanced Hematology	3
MLSC 321	Clinical Seminar I Education	1
MLSC 382	Clinical Hematology Rotation	4
MLSC 384	Clinical Chemistry Rotation	5
		14

Spring Semester (Clinical continued)

MLSC 322	Clinical Seminar II Management	1
MLSC 354	Advanced Immunohematology	2

School of Nursing

Health Sciences Center, Room 619
Telephone (203) 576-4269

Degree Programs

Bachelor of Science in Nursing (BSN)
Master of Science in Nursing (MSN)

Bachelor of Science in Nursing (BSN) Program

The BSN Program is designed to prepare a graduate nurse for entry-level practice in a variety of healthcare settings, to provide the foundation for graduate education and/or continued education as a life-long learner, and to contribute to quality patient outcomes.

University of Bridgeport School of Nursing Vision and Mission

The vision of the School of Nursing is to prepare diverse and inclusive nurse leaders who display a commitment to clinical excellence, global healthcare, and lifelong learning.

The mission of the School of Nursing is to provide innovative, evidence-based healthcare education that prepares a professional nurse to provide person-centered care that incorporates professional values of caring, excellence, integrity, diversity in the delivery of safe, quality healthcare and advancement of the profession within a global society.

BSN Program Student Learning Outcomes (SLOs)

Student learning outcomes or SLOs are statements specifying what students will know, be able to do or be able to demonstrate when they have completed the nursing program. The UBSN program has nine (9) SLOs, all of which are equally important to achieve:

- Synthesize knowledge from a liberal education in communication, human experience, scientific literacy, analysis, and global society.

- Communicate using an ongoing interactive process that builds therapeutic interpersonal and inter-professional relationships for an increasingly interconnected healthcare environment.
- Apply the nursing process to provide patient-centered, evidence-based, clinically competent, contemporary professional nursing care.
- Apply critical thinking skills to support excellence in nursing practice and to provide comprehensive, compassionate, evidence-based nursing care across the life span.
- Promote healthy lifestyles through health education, health promotion strategies and population-focused interventions.
- Comprehend system-based practice and its impact on safe, quality patient care within the scope of professional nursing practice.
- Apply leadership and management skills in the provision of safe, quality and cost-effective care in the continuum of healthcare environments.
- Exercise innovative inquiry in the use of information and patient care technology with knowledge based on research for the improvement in patient outcomes.
- Practice within the values, ethics, and legal standards of professional nursing.

Pre-Nursing Curriculum

Students begin their journey towards a BSN in the Pre-Nursing program. During freshman year, students enroll in general education courses. By February 1st, Pre-Nursing students interested in pursuing a BSN must apply to the School of Nursing. Students admitted to the BSN program will begin core courses in the fall of their sophomore year. New transfer students may be eligible to enter directly into the sophomore year.

Bachelor of Science in Nursing (BSN) Program

Admission to the Bachelor of Science in Nursing Program through the University

of Bridgeport School of Nursing (UBSN) is highly competitive. In addition to the general requirements listed below, candidates are also expected to have completed a rigorous curriculum of general education, math, and science foundation coursework, as listed in the Program Prerequisites below, to be eligible to apply. Relevant admissions information can be found below for each applicant student type.

Assessment Technologies Institute Test of Essential Academic Skills (ATI TEAS) Examination scores will be used in the evaluation of candidates for the BSN Program.

BSN Program Prerequisites (To be completed prior to matriculation)

Anatomy & Physiology I	4 credits
Anatomy & Physiology II	4 credits
Introductory Chemistry	4 credits
English Composition	3 credits
Introduction to College Algebra and Statistics	3 credits
Introduction to Psychology	3 credits
Lifespan Development	3 credits
Principles of Sociology	3 credits
Freshman Seminar / Liberal Arts Elective*	3 credits

*Transfer students who have completed more than 12 credits may satisfy the Freshman Seminar requirement with a Liberal Arts Elective (3 credits).

Additional Recommended Corequisite Coursework

Microbiology	4 credits
Statistics	3 credits
Fine Arts Elective	3 credits
Humanities Electives	6 credits

Nursing: 65 Credits

School of Nursing

General Education: 55 Credits

Total Credits: 120

Bachelor of Science in Nursing (BSN) Program Curriculum

Pre-Nursing (Non-Degree) Curriculum

YEAR I

FALL SEMESTER – 15 WEEKS

ENGL 101	Academic Writing	3
BIOL 113	Anatomy & Physiology I	4
PSYC 103	General Psychology	3
FYS 101	Freshman Seminar / Liberal Arts Elective	3
MATH 103	Introduction to College Algebra and Statistics	3
		<hr/>
	Total – 16 Credits	

SPRING SEMESTER – 15 WEEKS

BIOL 114	Anatomy & Physiology II	4
HUM	Humanities Core	3
SOCI 101	Principles of Sociology	3
CHEM 113	Introductory to Chemistry	4
PSYC 205	Lifespan Development	3
		<hr/>
	Total – 17 Credits	

YEAR II

FALL SEMESTER – 15 WEEKS

BIOL 106	Microbiology	4
NURS 201	Intro to Professional Nursing	2
NURS 202	Fundamentals of Professional Nursing	4
NURS 204	Health Promotion I: Health Assessment	3
	Fine Arts	3
		<hr/>
	Total – 16 Credits	

SPRING SEMESTER – 15 WEEKS

NURS 206	Health Maintenance & Restoration I	6
NURS 208	Pharmacology for the Professional Nurse	3
MATH 203	Elementary Statistics	3
	Humanities	3
		<hr/>
	Total – 15 Credits	

YEAR III

FALL SEMESTER – 15 WEEKS

NURS 314	The Research Process in Nursing	3
NURS 316	Health Maintenance & Restoration II	6
HSCI 230	Nutrition	3
NURS 318	Essentials of Psych/Mental Health Nursing	4
		<hr/>
	Total – 16 Credits	

SPRING SEMESTER – 15 WEEKS

NURS 323	Essentials of Family Nursing	5
NURS 328	Health Policy & Health Systems	3
	General Electives	6
		<hr/>
	Total – 14 Credits	

YEAR IV

FALL SEMESTER – 15 WEEKS

NURS 344	Health Promotion II: The Community	5
NURS 345	Leadership & Management Roles in Nursing	3
NURS 326	Health Maintenance & Restoration III	6
		<hr/>
	Total – 14 Credits	

SPRING SEMESTER – 15 WEEKS

NURS 357	Current Issues & Trends in Nursing	3
NURS 358	Transition to Prof. Practice: Sr. Practicum	6
NURS 393	Nursing Capstone II	3
		<hr/>
	Total – 12 Credits	

Graduation Requirements

In order to graduate from the BSN program, students must complete 55 credits in general education and 65 credits in nursing, totaling 120 credits. Along with a solid foundation in nursing, graduates of the program will be eligible to sit for the National Council Licensure Examination (NCLEX-RN® Exam).

Additional Policies

Please consult the UBSN Student Handbook for additional policies related to the School of Nursing.

RN to BSN Completion Program

The University of Bridgeport RN to BSN Completion Program in the School of Nursing prepares the graduate nurse for quality practice, career development and the educational mobility to advance into graduate nursing programs. The RN to BSN completion program curriculum is a total of 120 credits of which 27 credits are in nine upper level nursing courses.

Curriculum and Program Requirements

The RN to BSN Completion Program at the University of Bridgeport provides career educational mobility for the registered nurse who desires to earn the Bachelor of Science

in Nursing (BSN) degree. The streamlined progression is designed for both the diploma and associate degree graduate who can earn advanced placement on transfer of credits previously earned at a nationally accredited institution.

No placement examination is required, and applicants may transfer up to 90 credits from previous nursing program coursework from an accredited program. The total curriculum credits are 120 with 27 from the upper level nursing BSN courses. The RN to BSN Completion Program offers the RN student the opportunity to earn the BSN degree in a reasonable timeframe without repetition of learning in an environment that acknowledges the knowledge, skills and abilities the RN brings to the learning environment. The curriculum assists the RN to enhance the role of the professional nurse in today's complex health care environments. The curriculum is designed for professional growth and further development of critical thinking, analysis and decision-making, utilization of evidence-based practice, and communication within inter-disciplinary practices in a variety of health care settings.

Program Pre-Requisites/ Requirements

- NURS301 Theory and Evidenced Based Practice has a pre-requisite course, MATH203/DH315 Statistics.
- NURS303 Community Health requires health clearance, background and drug testing.
- NURS303 requires students to select a community site for NURS310 Population and Global Health and complete a 35-hour learning experience during the course to expand their professional practice into the community.

RN to BSN Completion Program (BSN) Curriculum

The nine BSN upper level nursing courses exist in three tier groups to establish a level of progression from introductory courses to mid-level courses and finishing with the final

School of Nursing

three courses including the Nursing Capstone course. The RN student may complete courses at the mid-level prior to completing all three introductory courses with approval from their advisor.

RN to BSN Completion Program (BSN) Curriculum

UNIVERSITY CORE COURSES CREDITS

English 101	3
MATH103 or higher	3
BIOL 113 Anatomy & Physiology I	4
BIOL 114 Anatomy & Physiology II	4
Humanities	6
Sociology 101	3
Psychology Child/Lifespan	3
Fine Arts	3
Total University Core Courses	29

PROGRAM REQUIREMENTS/TRANSFER

BIOL 106 Microbiology	4
PSYC 103 General Psychology	3
MATH203/DH315 Elementary Statistics	3
Basic Nursing Program Block Transfer	34
Total Program Requirements	44

Upper Level BSN Courses

TIER ONE - INTRODUCTORY COURSES	Credits
NURS302 Nursing Health Assessment	3
NURS304 Professional Seminar	3
NURS307 Informatics	3
Total – 8 Credits	

TIER TWO - MID-LEVEL

NURS301 Theory & Evidenced Based Practice	3
NURS303 Community Health	3
NURS306 Quality, Safety and Policy	3
Total – 7 Credits	

TIER THREE - FINAL COURSES

NURS305 Leadership and Management	3
NURS310 Population and Global Health	3
NURS308 Nursing Capstone	3
Total Upper Level BSN Courses	27

General Elective Courses	19-20
Total RN to BSN Completion Program	120

Additional Policies

Please consult the UBSN Student Handbook for additional policies related to the School of Nursing.

Accelerated Bachelor of Science in Nursing (ABSN) Program

The University of Bridgeport School of Nursing (UBSN), Accelerated Bachelor of Science in Nursing (ABSN) program is designed for those students who hold a bachelor's degree in another field other than nursing. This accelerated track incorporates the previous non-nursing bachelor's level course education and experience and allows the student to earn a BSN degree in fifteen months.

Graduation Requirements and Outcome

In order to graduate from the ABSN program, students must complete 64 credits in general education and 56 credits in nursing, totaling 120 credits. Along with a solid foundation in nursing, graduates of the program will be eligible to sit for the National Council Licensure Examination (NCLEX-RN® Exam).

SUMMER TERM 1 – 7 WEEKS

NURS 201 Intro to Professional Nursing	2
NURS 204 Health Assessment	3
HSCI 230 Nutrition	3
Total – 8 Credits	

SUMMER TERM 2 – 7 WEEKS

NURS 204 Fundamentals of Professional Nursing	4
NURS 208 Pharmacology	3
Total – 7 Credits	

YEAR I

FALL SEMESTER – 15 WEEKS

NURS 314 The Research Process in Nursing	3
NURS 320 Health Maintenance & Restoration I	6
NURS 323 Essentials of Family Nursing	5
NURS 345 Leadership and Management	3
Total – 17 Credits	

SPRING SEMESTER – 15 WEEKS

NURS 322 Health Maintenance & Restoration II	6
NURS 328 Health Policy & Health Systems	3
Total – 17 Credits	

NURS 357 Current Issues & Trends in Nursing	3
NURS 318 Psych/Mental Health Nursing	4

Total – 16 Credits

SUMMER II

SUMMER TERM 1, 2 – 14 WEEKS

NURS 344 Health Promotion II: The Community	5
NURS 358 Transition to Prof. Practice: Sr. Practicum	6
Total – 11 Credits	

Admission to the Accelerated Bachelor of Science in Nursing Program through the University of Bridgeport School of Nursing (UABSN) is highly competitive. In addition to the general requirements as listed below, candidates are also expected to have completed a rigorous curriculum of general education, math, and science foundation coursework, as listed in the Program Prerequisites below, to be eligible to apply.

General Admission Requirements

- A conferred BS/BA degree from a fully accredited Academic Institution.
- Applicants must achieve a “C+” or better in all Math and Science courses (including but not limited to Anatomy & Physiology I & II, Chemistry, and Algebra).
- Minimum cumulative Quality Point Ratio (QPR) of 3.00 from all institutions attended in order to apply to the ABSN Program.
- Math and science coursework must be completed within seven years prior to applying to the ABSN Program.
- ABSN pre-requisites include ENG 101, MATH 103, MATH 203, PSYC 103, PSYC 205, SOC 101, BIOL 113, BIOL 114, BIOL 106, and CHEM 113.
- HSCI 230 can be transferred in as a prerequisite course.
- All pre-requisites must be completed prior to the start of the first day of the first semester. At the time of application, only 3 pre-requisites may be outstanding or in progress.
- Missing General Education courses will be waived (i.e. Fine Arts and a 2nd Humanity).

School of Nursing

ABSN Program Prerequisites

- Anatomy & Physiology I (4)
- Anatomy & Physiology II (4)
- Introductory Chemistry (4)
- Microbiology (4)
- Introduction to College Algebra (3)
- Statistics (3)
- English Composition (3)
- Introduction to Psychology (3)
- Lifespan Development (3)
- Principles of Sociology (3)

Master of Science in Nursing (MSN) Program

The MSN Program is an online program, dual-focused in nursing leadership & education. Based on the AACN Essentials for Master's Nursing Education it prepares nurses as leaders and educators in order to expand career opportunities and forge partnerships between education and practice settings. Nurse leaders will have the skills to collaborate with and within healthcare systems, to enhance patient outcomes. The core three advance practice content courses are required. The broad based curriculum also includes integrating concepts from epidemiology, social, scientific and environmental evidenced based data and business management principles in an effort to synthesize core leadership in nursing content from the perspective of a nurse educator and leader. Curriculum design, learning theory and evaluating outcomes are core areas for a nurse educator and essential to understanding and creating educators and leaders who uphold professional educational standards in an academic or clinical setting. This unique skill set is innovative in responding to the recommendations of the IOM report, "The Future of Nursing: Leading Change, Advancing Health" (2010). Leadership & Education MSN graduates will assimilate in a variety of healthcare settings with the educational foundation for a terminal doctoral degree.

MSN Program Student Learning Outcomes (SLOs)

Student learning outcomes or SLOs are statements specifying what students will know, be able to do or be able to demonstrate when they have completed the

masters of science nursing program. The UBSN program has (8) SLOs, all of which are equally important to achieve:

- Apply leadership & decision making skills in the provision of quality & safe care delivery to individuals & populations across healthcare delivery systems.
- Integrate epidemiological, social, core scientific and environmental data in drawing inferences regarding the health status of patient populations and interventions to promote optimal health.
- Engage in Scholarship to direct evidenced-base practice and decision-making.
- Employ principles of business management within healthcare systems/organizations.
- Demonstrate competence in communication and collaboration required to advance inter-professional partnerships.
- Incorporate knowledge of curriculum development and design, implementing, and evaluating health education programs.
- Demonstrate competency as a leader and educator in nursing including upholding the professional nursing standards and policies.
- Incorporate ethical principles for promoting a just culture for leading and educating compassionate nursing practice.

MSN Program Tracks

Students may begin their journey towards an MSN in the RN to BSN online program. Current associate and diploma nurses may obtain a BSN in the UB RN to BSN program then continue to the MSN program in an accelerated track. This provides a seamless progression saving students time and money.

Similarly, for those with a non-nursing bachelor's degree, an accelerated RN to MSN degree track is available (no BSN conferred) as a path to completing the MSN. Current RN to BSN students interested in pursuing the MSN should apply in their next to final semester in the RN to BSN program. Students admitted to the MSN program will begin with

the direct care core graduate level courses.

Pre-requisites/admission requirements

Admission to the Masters of Science in Nursing Program through the University of Bridgeport School of Nursing (UBSN) is competitive. Each track below has specific requirements. Relevant admissions information is provided for each applicant student type. The GRE is not required.

Online MSN in Leadership & Education

All potential MSN candidates must complete a graduate program online application and submit the following requirements based on the entering track:

1. University of Bridgeport BSN to MSN Program Requirements:

- Cumulative GPA > 3.0
- One professional letter of recommendation
- A 300-word essay on the reasons you are interested in the UB Leadership & Educator MSN Degree
- Current unencumbered RN license

2. BSN to MSN Program

- Cumulative GPA > 3.0 from an accredited BSN nursing program
- Two professional letters of recommendation
- A 300-word essay on the reasons you are interested in the UB Leadership & Educator MSN Degree
- Completion of MATH203 Elementary Statistics with a C+ or better
- Current unencumbered RN license

3. RN to MSN students

- a non-nursing bachelor's degree from an accredited program
- an associate's degree or diploma from an accredited school of nursing
- Cumulative GPA > 3.0
- Two professional letters of recommendation

School of Nursing

- A 300-word essay on the reasons you are interested in the UB Leadership & Educator MSN Degree
- Current unencumbered RN license

Upon admission of UB RN to BSN students, students who are interested in the MSN program should work with their adviser to take the following 3 graduate level courses instead of the 300 level courses in the RN-BSN program. They may then accelerate into the MSN Program upon completion of these courses and a 3.00 GPA.

- o MATH203 is a required pre-requisite unless taken as part of the undergraduate nursing program.
- o MSN course/ waived RN-BSN course:
 - NURS 540 (3cr) Theory and Evidence Based Practice (NURS 301)
 - NURS 575 (3cr) Quality, Safety & Policy (NURS 306)
 - NURS 590 (3cr) Nursing Informatics (NURS 307)

THREE PROGRAM ENTRY POINTS

Entry Degree	Process to Enter	Credits	Req for MSN
UB RN to BSN	Direct Entry after BSN conferred (Internal)	30	
BSN (External)	Admission Requirements	39	
AD/Diploma & non-nursing	Admission Requirements (no BSN degree conferred)	*45	
Bachelor Degree (Bridge)	*Requires co-requisites		

MSN Leadership & Education Courses	Credits
NURS 540 Theory & Evidence Based Practice	3
NURS 550 Advanced Pharmacology	3
NURS 560 Advanced Health Assessment & Pathophysiology	3
NURS 575 Quality, Safety & Policy	3
NURS 590 Nursing Informatics	3
NURS 602 Curriculum Development & Design	3
NURS 604 Teaching Assessment & Evaluation of Outcomes	3
NURS 606 Resource management & Finance	3
NURS 608 Organizational Leadership	3
NURS 610 Education Practicum	3
NURS 612 Leadership Practicum	3
ELEC (3)	3
ELEC (3)	3

Master of Science in Nursing (MSN) Online Program Curriculum

Option 1. UB RN to BSN to MSN Nursing Curriculum (BSN Conferred)

YEAR I

FALL SEMESTER - 15 WEEKS

NURS 550 Advanced Pharmacology	3
NURS 560 Advanced Health Assessment & Advanced Patho-	

physiology	3			3
		6 Credits	Elective	

SPRING SEMESTER - 15 WEEKS

NURS 602 Curriculum Development & Design	3			3
NURS 604 Teaching, Assessment & Evaluation of Outcomes	3			3
		6 Credits		

YEAR II

FALL SEMESTER - 15 WEEKS

NURS 606 Resource Management & Finance	3			3
NURS 608 Organizational Leadership	3			3
		6 Credits		

SUMMER SEMESTER - 15 WEEKS

Elective	3			3
Elective	3			3
		6 Credits		

SPRING SEMESTER - 15 WEEKS

NURS 610 Educator Practicum	3			3
NURS 612 Leadership Practicum	3			3
		6 Credits		

SUMMER SEMESTER - 15 WEEKS

NURS 540 Theory and Evidence Based Practice	3			3
NURS 575 Quality, Safety, and Policy	3			3
NURS 590 Nursing Informatics	3			3
		9 Credits		

FALL SEMESTER - 15 WEEKS

NURS 550 Advanced Pharmacology	3			3
NURS 560 Advanced Health Assessment & Advanced Pathophysiology	3			3
		6 Credits		

SPRING SEMESTER - 15 WEEKS

NURS 602 Curriculum Development & Design	3			3
NURS 604 Teaching, Assessment & Evaluation of Outcomes	3			3
		6 Credits		

SUMMER SEMESTER - 7 WEEKS

Elective	3			3
Elective	3			3
		6 Credits		

FALL SEMESTER - 15 WEEKS

NURS 606 Resource Management & Finance	3			3
NURS 608 Organizational Leadership	3			3
		6 Credits		

SPRING SEMESTER - 15 WEEKS

NURS 610 Practicum	3			3
NURS 612 Practicum	3			3
		6 Credits		

YEAR II

FALL SEMESTER - 15 WEEKS

NURS 606 Resource Management & Finance	3			3
NURS 608 Organizational Leadership	3			3
		6 Credits		

SUMMER SEMESTER - 15 WEEKS

Elective	3			3

School of Nursing

Graduation Requirements

In order to graduate from the MSN program, students must complete all required credits in their program track.

UB RN to BSN – 30 credits

BSN to MSN – 39 credits

RN to MSN – 48 + required prerequisites not completed or transferred

Additional Policies

Please consult the UBSN Student Handbook for additional policies related to the School of Nursing.

Nutrition Institute

Eleanor Dana Hall
Telephone (203) 576-2466

Degree Program

Human Nutrition (M.S.)

Mission Statement

The mission of the human nutrition program is to prepare graduates to positively influence and support specific health challenges and promote overall well-being by integrating biochemical and physiological science knowledge with evidence-based strategies that link to integrative and preventative nutrition-based interventions.

Learning Outcomes

The UB Human Nutrition Institute graduates will:

1. Promote and support awareness of the benefits of optimal nutrition to health and overall well-being.
2. Integrate biochemical and physiological science knowledge with nutritional evidence-based interventions and competent decision-making to prevent, positively influence and support various health challenges
3. Exhibit professional behavior that is ethical, collaborative and culturally sensitive
4. Demonstrate the ability to successfully complete the UB comprehensive exam

Degree Requirements

Degree candidates must complete the courses listed in the 44 credit curriculum with a minimum grade point average of 3.0 (B average). All students are required to pass a comprehensive examination at the completion of all coursework in order to graduate. All degree requirements are to be completed within a five year period from start date of their first master's course.

Joint Programs

A joint program with the UB College of Chiropractic has been established to allow students to pursue the M.S. degree in Human Nutrition while working on the D.C degree. Students who have completed the fifth semester of chiropractic studies, with a 2.75 GPA or above, may be recommended by their dean for entry into the Master's program at an advanced level.

Joint DC/MS Program

Students from the UB College of Chiropractic will enter the second semester of the Nutrition Program. They will be required to complete a total of 25 semester hours of required nutrition courses as specified in their admission letter.

Master of Science Curriculum

NUTR 560A	Pathophysiologic Basis of Metabolic Disease	4
NUTR 560B	Biochemistry of Nutrition	4
NUTR 560C	Vitamins and Minerals	3
NUTR 560E	Nutrition Assessment	3
NUTR 560D	Clinical Biochemistry	3
NUTR 560F	Nutritional Therapeutics	4
NUTR 560G	Lifelong Healing with Food	4
NUTR 560H	Developmental Nutrition	3
NUTR 560K	Virtual Clinic	4
NUTR 560M	Evidence Based Nutrition	3
NUTR 560N	Anatomy and Physiology	4
NUTR 560U	Introductory Biochemistry	3
NUTR 560V	Fundamentals of Nutrition	2
NUTR 600N	Comprehensive Exam	0
Total		44

Physician Assistant Institute

Eleanor Dana Hall
30 Hazel Street
Telephone: (203) 576-2400

The University of Bridgeport Physician Assistant Institute is committed to the development of highly qualified physician assistants who deliver patient-centered health care. UB physician assistants gain skills that enable them to be leaders in the profession and the community, and advocates for their patients. The PAI underscores the importance of integrated medicine and of global health in clinical practice.

Degree

Master of Science: Physician Assistant

Mission Statement

The mission of the University of Bridgeport Physician Assistant Institute is to prepare future PAs with the knowledge and skills to provide culturally sensitive, patient-centered care and foster life-long learning and professionalism, emphasizing commitments to diversity, global perspective, and integrative approach benefiting all patients. This mission is reflected in our motto: Adiuvare, Mederi, Communiter; TO HELP, TO HEAL, TOGETHER.

Curriculum

The physician assistant curriculum is comprised of a rigorous 28 month Master of Science program. In the didactic phase of the program students learn the tenets of basic medical sciences, clinical medicine (pathophysiology of disease and pharmacology), clinical skills (history taking and physical exam along with clinical procedures), global and public health, and patient education counseling. The research semester teaches the basics of evidence-based medicine and research methods. Research skills development enables students to use evidence-based medicine to care for patients and successfully complete a capstone research project. Prior to the clinical phase, students are oriented to each

clerkship in the Clinical Seminar course. The clinical phase of the program, the last 13 months of the program, consists clinical clerkships in internal medicine, surgery, pediatrics, emergency medicine, family medicine, behavioral health, obstetrics/gynecology and one elective. During the didactic phase, instruction is provided by experienced faculty from the basic science departments and PAI. During the clinical phase, students are instructed by their clinical preceptors who are licensed, board-certified clinicians.

Program Objectives

Graduates of the University of Bridgeport Physician Assistant Institute will be able to demonstrate competence in the following areas:

- Provide care to diverse patient populations and demonstrate sensitivity to culture, age, gender identity, race/ethnicity and disability.
- Counsel and educate for disease prevention and health promotion minimizing barriers to care by consideration of health literacy, belief systems, and socioeconomic status.
- Understand the role of the PA profession and adhere to professional and ethical standards in providing patient care.
- Acknowledge and understand patient preferences in utilization of integrative and cultural practitioners.
- Identify ways to improve health equity and manage the health of populations.
- Accurately perform the necessary technical skills for clinical practice and identify associated indications, contraindications, outcomes and complications.
- Identify the roles of various providers in the healthcare team and work collaboratively within inter-professional teams.

Admission Prerequisites

Admission requirements must be completed prior to matriculation. Applicants may apply with one prerequisite course in progress, that must be completed prior to matriculation.

- Bachelor's degree from an accredited institution
- Cumulative GPA of 3.0 or higher
- Science GPA of 3.0 or higher
- Required coursework: taken within the last ten years, with a "C" or better, from an accredited school. (English, Statistics, and Psychology within the last fifteen years): *
- 2 semesters of Anatomy and Physiology with labs
- 1 semester of Biology with lab
- 2 semesters of General Chemistry with labs
- 1 semester of English
- 1 semester of Psychology

Physician Assistant Institute

- 1 semester of Statistics
- 1 semester of Microbiology
- 1 semester of Biochemistry OR 1 semester of Organic Chemistry
- 750 hours of direct patient care experience

Please note, the above are minimum requirements for admission. The most desirable applicants will exceed the minimum GPA requirements, will have evidence of a rigorous undergraduate and prerequisite academic career, and will exceed the minimum patient care experience requirement. For information please visit: <https://www.bridgeport.edu/academics/schools-colleges/physician-assistant-institute/physician-assistant-ms/admission-requirements>.

Semester Based Curriculum

TERM 1

NUMBER	COURSE	CREDITS
MSPA 511	Anatomy I	3
MSPA 521	Physiology I	3
MSPA 529	Clinical Medicine I	5
MSPA 551	History & Physical Exam I	3
MSPA 565	Integrative Medicine & Practice	2
MSPA 575	Global Health & Preventive Medicine	2
Term Total		18

TERM 2

NUMBER	COURSE	CREDITS
MSPA 512	Anatomy II	3
MSPA 522	Physiology II	3
MSPA 530	Clinical Medicine II	6
MSPA 534	Correlative Medicine I	2
MSPA 552	History and Physical Exam II	3
MSPA 581	Pharmacology I	3
Term Total		20

TERM 3

NUMBER	COURSE	CREDITS
MSPA 533	Clinical Medicine III	8
MSPA 542	Correlative Medicine II	2
MSPA 556	Patient Education, Nutrition, and Counseling	2
MSPA 572	Pharmacology II	3
MSPA 574	Medical Ethics & Professional Practice	2
MSPA 591	Technical Skills with lab	2
Term Total		19

TERM 4

NUMBER	COURSE	CREDITS
MSPA 602	Information Literacy and Medical Writing	2
MSPA 610	Clinical Seminar	4.5
MSPA 622	Internal Medicine Clerkship*	4.5
MSPA 661	Capstone Project I	4
MSPA 671	Research Methods	2
Term Total		17

TERM 5

NUMBER	COURSE	CREDITS
MSPA 623	Pediatrics Clerkship	4.5
MSPA 624	Surgery Clerkship	4.5
MSPA 625	Emergency Medicine Clerkship	4.5
Term Total		13.5

TERM 6

NUMBER	COURSE	CREDITS
MSPA 628	Behavioral Health Clerkship	4.5
MSPA 626	OB/GYN Clerkship	4.5
MSPA 627	Family Medicine Clerkship	4.5
Term Total		13.5

TERM 7

NUMBER	COURSE	CREDITS
MSPA 629	Elective Clerkship	4.5
MSPA 630	Special Populations Selective Clerkship	4.5
MSPA 662	Capstone Project II	2
MSPA 695	Graduate Practice Logistics	1
Term Total		12

Curriculum Total **113**

*Order of clerkships vary by student schedule, this order is an example.

Graduation Requirements

- Successful passing of all PAI courses, including all clinical clerkships, with a final grade of a 70% or better and a satisfactory pass for pass/fail courses,
- An overall cumulative grade point average of 3.0 in all PAI courses,
- Satisfactory achievement noted in the professional/behavioral evaluations during the pre-clinical and clinical phases of the program, and
- Successful passing of the summative examination.

COURSE OF INSTRUCTION

Undergraduate Programs

Course of Instruction

Accounting

Courses numbered 100-199 are intended primarily for freshmen; courses numbered 200-299, for sophomores; and courses 300-399, for juniors and seniors. Student experience may suggest exceptions are warranted. In those instances, students should consult with their advisors. Deans have authority to approve exceptions.

Some advanced courses are not taught every year but are scheduled in cycles. The University reserves the right to limit the number of students registered in any course and to cancel any course for which there is insufficient enrollment.

Accounting

ACCOUNTING 101

Principles of Accounting I

An introduction to the basic principles of Accounting, and how to account for business transactions. Emphasis on the understanding of how financial statements are prepared, and how they are used as a basis for decision making by business owners, investors, creditors, government and others interested in the financial condition of an economic entity and the results of its operations. Topics include Analyzing Transactions; the Matching Concept and the Adjusting Process; Completing the Accounting Cycle; Accounting for Merchandising Businesses; Accounting Systems, Internal Controls, and Cash; and Receivables.

3 semester hours

Offered: Spring/Fall Only

ACCOUNTING 102

Principles of Accounting II

A continuation of Accounting 101. Topics include Inventories; Fixed Assets and Intangible Assets; Current Liabilities; Corporations; Organization, Capital Stock Transactions, and Dividends; Income Taxes, Unusual Income Items, and Investments in Stocks; Bonds Payable and Investments in Bonds; Statement of Cash Flows; and Financial Statement Analysis. Prerequisite: Accounting 101; Minimum grade C

3 Semester hours

Offered: Spring Only

ACCOUNTING 103

Managerial/Cost Accounting

Introduction to Managerial and Cost Accounting used by management in conducting daily operations, planning future operations, and

developing overall business strategies. Topics include Process Cost Systems, Cost Behavior and Cost-Volume-Profit Analysis, Profit Reporting for Management Analysis, Budgeting, Performance Evaluation Using Variances from Standard Costs, and Cost Allocation and Activity-Based Costing. Prerequisite: Accounting 101 and 102; Minimum grade C

3 semester hours

Offered: Spring/Fall Only

ACCOUNTING 210

Financial Accounting Systems

Accounting systems for internal control, cash management, accounts receivables, inventories, plant assets, payroll, taxes, and other liabilities. Study of manual and computerized systems. Prerequisite: Accounting 101.

3 semester hours

Offered: Fall only

ACCOUNTING 300

Intermediate Accounting I

Study of generally accepted accounting principles underlying the preparation of basic financial statements; balance sheet, income statement, and cash flow statement. Emphasis on standards issued by the Financial Accounting Standards Board and reporting requirements of the Securities and Exchange Commission. Prerequisite: Accounting 101, Accounting 102.

3 semester hours

Offered: Fall only

ACCOUNTING 301

Intermediate Accounting II

Study of generally accepted accounting principles relating to accounting for leases, post-employment benefits, deferred taxes and other specialized topics. Emphasis on Financial Accounting Standards Board Statements. Prerequisite: Accounting 300.

3 semester hours

Offered: Spring only

ACCOUNTING 302

Advanced Accounting

Coverage of selected advanced topics including accounting for investments, accounting for mergers and acquisitions, consolidation and currency translation, segment reporting, and accounting for government and not-for-profit organizations. Pre-requisite: Accounting 301.

3 semester hours

Offered: Spring/Fall only

ACCOUNTING 311

Taxation of Individuals

Study of accounting and income tax law as

it applies to individual and business entities. Concepts of gross income, allowable deductions and credits, determination of tax liabilities. Prerequisite: Accounting 101, Accounting 102.

3 semester hours

Offered: Fall Only

ACCOUNTING 312

Taxation of Entities

This course concentrates on federal income taxation of Corporations, Partnerships, Subchapter S Corporations, and Gvt and Estates. It introduces students to the income tax rules and regulations pertaining to these "taxable entities", while enhancing an awareness of the complexities and sources of tax law. Prerequisite: Accounting 101, Accounting 311.

3 semester hours

Offered: Spring only

ACCOUNTING 327

Multinational Accounting

A global perspective on accounting practices. Development and role of accounting in selected countries, comparative practices in financial reporting and disclosure, setting international accounting standards, and examinations of auditing and taxation issues. Prerequisite: Accounting 101.

3 semester hours

Offered: Fall only

ACCOUNTING 335

Auditing

Study of generally accepted auditing standards, practice and procedures in the audit of financial statements. Includes study of ethical issues and professional responsibilities of the Certified Public Accountant to investors, creditors and others who rely on the auditor's opinion when using audited financial statements to make decisions. Prerequisite: Accounting 308.

3 semester hours

Offered: Spring only

ACCOUNTING 335

Auditing

Study of generally accepted auditing standards, practice and procedures in the audit of financial statements. Includes study of ethical issues and professional responsibilities of the Certified Public Accountant to investors, creditors and others who rely on the auditor's opinion when using audited financial statements to make decisions. Prerequisite: Accounting 101.

3 semester hours

Offered: Spring only

Arabic • Art & Design

Arabic

ARABIC 101

Elementary Arabic I

In this course students are introduced to the Arabic language and culture. Basic skills in speaking, listening, reading, and writing are developed. Cultural readings and videos are included in each lesson giving the students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. This is a course for students with little or no knowledge of Arabic language.

3 semester hours

ARABIC 102

Elementary Arabic II

This course builds on the foundations laid in Arabic 101 and continues to introduce students to Arabic language and culture. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course students are expected to reach a beginner level of Arabic language proficiency and should be able to understand/ identify familiar vocabulary and conversation topics; engage in a conversation in a target language on a familiar topic; express opinions/ feelings about a familiar topic; read and comprehend short simple texts; write short simple sentences. Prerequisite: Arabic 101.

3 semester hours

ARABIC 103

Intermediate Arabic I

This course builds on the foundations laid in Arabic 101 and Arabic 102 and provides an opportunity to improve Arabic language proficiency beyond the beginner level. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. Prerequisite: Arabic 102.

3 semester hours

ARABIC 104

Intermediate Arabic II

This course builds on the foundations laid in Arabic 103. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and

grammar in a classroom conversation. By the end of this course the students are expected to reach an intermediate level of Arabic language proficiency and should be able to understand/ identify a range of vocabulary items and topics; engage in a conversation in a target language on a range of topics; express opinions/feelings about a range of topics; read and comprehend medium length texts; write medium complexity sentences. Prerequisite: Arabic 103.

3 semester hours

Art & Design

The Art & Design Department reserves the right to retain selected samples of student work. A minimum of four hours of outside assignments per week is required in Studio Courses.

STUDIO FEES

Most studio courses have a fixed standard materials fee per course. Studio fees listed are subject to change. Consult course schedules for current rates.

ART & DESIGN C101

Art Appreciation

Introduction to theories of value in the arts. Principles of aesthetics as historically applied to plastic and performing arts. Theories of Beauty and their critique in Western and non-Western contexts. Pre-modern, modern and post-modern approaches to the analysis of the arts and architecture. This course may include a studio or performing component. A Core Heritage Course. Prerequisite: ENGL C101 or department permission.

3 semester hours

ART & DESIGN 103

2D Design

Problems in two-dimensional design and the interaction of color: the exploration of the elements of art and their interrelationships; visual and psychological factors involved in two-dimensional design and visualization. Introduces art and design presentation techniques including the portfolio. Emphasizes topics not covered in ADSN 104.

3 semester hours

ART & DESIGN 104

Visual Organization II

Problems in two-dimensional design and the interaction of color: the exploration of the elements of art and their interrelationships; visual and psychological factors involved in two-dimensional design and visualization. Introduces art and design presentation tech-

niques including the portfolio. Emphasizes topics not covered in ADSN 103.

3 semester hours

ART & DESIGN 105

Drawing I

Fundamentals of drawing. Visualizing in two and three dimensions. An introduction to various media techniques and orthographic delineation methods including perspective drawing systems. Use of objects and figures in developing rapid visualization skills. Emphasizes topics not covered in ADSN 106.

3 semester hours

ART & DESIGN 106

Drawing II

Fundamentals of drawing. Visualizing in two and three dimensions. An introduction to various media techniques and orthographic delineation methods including perspective drawing systems. Use of objects and figures in developing rapid visualization skills. Emphasizes topics not covered in ADSN 105.

3 semester hours

ART & DESIGN 108

3-D Design

Fundamentals of three-dimensional design. The investigation of the interrelationships of spaces, planes, and volumes in three-dimensional structures. Materials such as paper, clay, plaster, plastic and wood will be introduced and explored for use in the construction of three-dimensional models. Students will be instructed in the use of model-making tools, equipment and processes appropriate to materials introduced.

3 semester hours

ART & DESIGN 110

Drafting

Introduces basic orthographic drafting techniques and technologies. Presentation and layout techniques used to enhance objects and environments. Introduces the representation of spatial designs including plans, views, elevations/sections, isometrics, axonometrics, perspectives, dimensioning and detail drawing. Provides basic introduction to computer-aided drafting.

3 semester hours

ART & DESIGN 111

Survey of Art History I

The development of visual art from prehistoric civilizations through the Medieval period. Multicultural developments and the changing role of the artist in society will be emphasized.

3 semester hours

Art & Design

ART & DESIGN 118

Survey of Art History II

The development of visual art from the Renaissance through the 20th Century, focusing on the modern role of art and artists in a global context.

3 semester hours

ART & DESIGN 119A, 119B

Introduction to Computer Applications

A survey of the primary image processing, layout, vector graphic and digital presentation software. Color correction, scanning and document set up for desktop publishing output is also covered.

ART & DESIGN 200

Co-op Work Experience

Through the co-op program, the student will be placed in full-time and part-time working positions in art, illustration, graphic design, industrial design and interior design. Prerequisite: 30 semester hours; by arrangement.

1-6 semester hours

GRAPHIC DESIGN 200

Co-op Work Experience

Through the co-op program, the student will be placed in full-time and part-time working positions in art, illustration, graphic design, industrial design and interior design. Prerequisite: 30 semester hours; by arrangement.

1 credit

GRAPHIC DESIGN 203

Typography I

The history, design and execution of letter forms in both analog and digital form are covered. Projects include the development of letter forms from pen and brush to digital font design. The emphasis is on the arrangement of type in design layout and the use of letter forms in an electronic presentation environment. Prerequisite: ADSN 219.

3 semester hours

GRAPHIC DESIGN 204

Calligraphy

This course addresses the origin of the roman alphabet(s), the development of historical letter style categories, manual methods of producing distinctive and beautiful letters and text, various parameters of legibility and readability, methods of utilizing calligraphic and lettering forms in both traditional and innovative ways.

2 semester hours

ART & DESIGN 205

Drawing III

Advanced drawing techniques utilizing a variety of media and subjects. Investigates

structure, materials and scale by illustrating and rendering figures, objects and environments. Emphasizes topics not covered in Art & Design 206 such as advanced orthographic drawing techniques. Prerequisite: ADSN 105 and ADSN 106.

3 semester hours

ART & DESIGN 206

Interiors Drawing IV

Advanced drawing techniques utilizing a variety of media and subjects. Investigates structure, materials and scale by illustrating and rendering figures, objects and environments. Emphasizes topics not covered in Art & Design 205 such as production and assembly drawings. Prerequisite: ADSN 105 and ADSN 106.

3 semester hours

ART & DESIGN 207

Illustration I

A basic hands on course for developing a strong technical rendering foundation. An emphasis is placed on creative problem solving and simultaneous technical development. Editorial illustration for books, magazines, and advertising, etc. is the purpose of the course. Prerequisite: ADSN 103, ADSN 104, ADSN 105 and ADSN 106.

3 semester hours

ART & DESIGN 208

Illustration II

Continuation and second level of Art & Design 208 Illustration I. An emphasis is placed on creative problem solving and simultaneous technical development in an electronic environment. Editorial illustration for books, magazines, and advertising, etc for an electronic prepress environment is accompanied with learning advanced paint, photo-manipulation and logo software. Prerequisite: ADSN 207 and ADSN 219.

3 semester hours

ART & DESIGN 209

Painting I

The principles of painting, through a series of visual problems, working from nature. The understanding of pictorial space through control of drawing, value and color. Emphasizes topics not covered in Art & Design 210.

3 semester hours

ART & DESIGN 210

Painting II

The principles of physical and digital painting through a series of problems uniquely structured for the combination of analog and digital media. The understanding of representation

and appropriate presentation methods relative to analog and digital media is the emphasis of the course. Prerequisite ADSN 209, and ADSN 219.

3 semester hours

GRAPHIC DESIGN 212

Introduction to Visual Semiotics

Semiology (from the Greek semeion 'sign'). In semiotics, 'signs' and symbols may be words, images or anything from which meanings may be generated and used to communicate. The course is an introduction to the analysis, appreciation and reading of broad range of signs and symbols to empower the communication practitioner to expand their visual vocabulary. Myth, Metaphor, Religious Iconography, Advertising and more, will be investigated to establish a communication value. With this added knowledge the students can be a more sophisticated globally aware communicator in their field of practice. The course consists primarily of video and slide screenings, followed by written analysis, reading and discussion. Prerequisite: ADSN 219, and ADSN 249.

3 semester hours

ART & DESIGN 221

Ceramics I

A basic approach to functional and sculptural clay modeling and firing techniques. The course exposes students to a variety of techniques used by different cultures from around the globe, both past and present. The course is to develop an appreciation for 3-Dimensional form.

3 semester hours

ART & DESIGN 223

Sculpture I

Techniques of three dimensional design applied to a variety of materials and used for expressive purposes. Includes figure sculpting and armature construction.

3 semester hours

ART & DESIGN 230

Video I

History, theory, and practice of analog and digital capturing and editing. Use of cameras and software for digitizing and editing. An emphasis on a narrative film style (story telling) is utilized to prepare students for later work in Web and Multimedia design. Prerequisite: ADSN 219.

3 semester hours

ART & DESIGN 231

Photography I

This is a non-darkroom course for using pro-

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fessional studio equipment in and out of the studio to fulfill assignments in advertising, industrial, commercial and portrait photography by combining creativity and technical knowledge. The fundamentals of picture taking, camera types, and history will be covered. Emphasis is on studio lighting with a final concern for documenting 2D and 3D work in a portfolio format.

3 semester hours

GRAPHIC DESIGN 255

Studio I

Print Design I – Fundamentals of page composition. Students will demonstrate an understanding of basic typographic and page composition principles through a variety of traditional and digital mediums. Prerequisites: ADSN 103 and ADSN 119.

3 semester hours

GRAPHIC DESIGN 256

Studio II

Print Design II – Intermediate print design. This course explores the combination of type and image on the printed page. The course focuses on using grids, along with the basic principles of typography as methods for organizing content in print. Prerequisites: GDSN 255 (DS I).

3 semester hours

GRAPHIC DESIGN 304

Business Practices & Ethics

Lecture course on business practices and professional ethics as applied to the Interior Design profession. Survey of business types, marketing and selling of services and products, and fee structures will be discussed. Current trends in safety, codes and licensing issues will be explored. Examination and preparation of business forms including contractual agreements, budget estimates, purchase orders and invoices will be covered in depth and applied to the thesis project. Prerequisite: ITDSN 356

GRAPHIC DESIGN 305

Studio III

Print Design III – Advance printing design: Students will create campaigns in a series of projects to cover all aspects of identity design, from business stationary to promotional brochures, packaging design and environmental signage. Techniques for reinforcing a corporate identity will be covered. Prerequisites: GDSN 256 (DS II).

3 semester hours

GRAPHIC DESIGN 306

Studio IV

Web Design: Producing and displaying design content for the Web branch of the Internet and adapting that content to the requirements and restrictions of that medium. Students will develop skills in using mark-up languages to make functional and accessible documents for the World Wide Web, develop skills in structuring, linking, and maintaining multiple documents within a web site, and develop skills in incorporating visual elements to enhance information. Prerequisites: GDSN 305 (DS III).

3 semester hours

ART & DESIGN 309

Painting III

Investigation of a variety of media and techniques. Problems emphasizing composition formulation. Emphasizes topics not covered in ADSN 310. Prerequisite: 30 units of Art & Design courses or equivalent and ADSN 209, ADSN 210.

3 semester hours

ART & DESIGN 317

Photography II — Digital & Non Silver, Alternative Photography

This is a studio course for the photographer that is more concerned with the esthetic, process, materials and digital technology to support content. Various methods of photographic representation will be explored, both digital and non-silver for the purpose of presentation and exhibition. Methods will vary from polaroid transfer, cyanotype, gumbicromate and digital prints. Prerequisite: ADSN 231 and ADSN 219.

3 semester hours

ART & DESIGN 319

Printmaking I

Introduction to printmaking studio practices including intaglio, lithography, relief, paper making, etc. The course exposes students to a variety of techniques used by different cultures from around the globe, both past and present.

3 semester hours

GRAPHIC DESIGN 355

Portfolio Preparation

Students will prepare their portfolios for both print and web formats. Reworking of previous design to improve for portfolio presentation. Developing new pieces to enhance and broaden the current body of work. Prerequisite: GDSN 306 (DS IV)

3 semester hours

GRAPHIC DESIGN 356

Thesis/Portfolio II

This is an individual statement. The applied knowledge of five semesters of study will support future investigation. The body of work and research should reflect a concentration of study in a chosen area of practice as stated in the thesis proposal, e.g., design, advertising, publishing (www), etc. The student will work with an advisor in the chosen field and thesis teacher for 2 semesters. The focus of the class is to assist the student in developing a critical appreciation of their work through concentrated input from faculty, students and guest critics. The course requires a body of work accompanied by a written statement and slide documentation, as well as a complete portfolio.

3 semester hours

ART & DESIGN 357

Illustration III

Advanced illustration problems and techniques for magazines, advertising, fashion, children's books, newspapers and preparation of a professional portfolio. Media used by illustrators including specialized painting and drawing techniques will be studied with emphasis on the importance of style in contemporary illustration. Various markets will be studied to identify appropriate potential markets for student illustrations. Work with editors and art directors. Deadline development and portfolio preparation for each market type. Emphasizes topics not covered in ADSN 358. Prerequisite: ADSN 207, ADSN 208.

3 semester hours

ART & DESIGN 376

History of Modern Art

Global art of the 20th Century with the inclusion of electronic and computer art. Prerequisite: Art & Design 117 and 118.

3 semester hours

ART & DESIGN 377

History of Modern Design

Survey of major design movements of the 19th & 20th Centuries. Studies in the national and international relationship of art and design in such groups as De Stijl and the Bauhaus.

3 semester hours

ART & DESIGN 378

History of Photography

A survey of photographic history from its earliest beginning to the present day. Major photographers, styles, and trends in a social context are covered. The course will also in-

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clude political, social, and scientific influences on photography, and the role of photography in everyday life. Through slide lectures and class work, students will learn to look at, talk, and write about photographs. Prerequisite: ADSN 117 and ADSN 118.

3 semester hours

ART & DESIGN 379

History of the Graphic Arts

Survey of the history of illustration and graphic design, with emphasis on their global application in communications media.

3 semester hours

ART & DESIGN 380

History of Modern Architecture & Urbanism

Survey of the major movements in architecture and urban planning from the 19th Century to the present. Considers the problems of vernacular architecture, urban design, historicism, functionalism, post-modernism.

3 semester hours

ART & DESIGN 398

Internship

Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.

3 semester hours

ART & DESIGN 399

Independent Study/Special Projects

For the student who desired to specialize in advance projects not covered by the regular course offerings. Individual or group conferences with designated faculty advisor. Prerequisite: Permission of School Director.

1-6 semester hours

ART & DESIGN 408

Selected Topics in Modern Art & Design History

Seminar examining specific topics in the global history of modern art and design such as Dada, Abstract Expressionism, furniture design, performance art, computer & media arts. Prerequisite: 12 semester hours of art history or permission of the instructor.

3 semester hours

ART & DESIGN 425

Advanced Topics I

Advanced undergraduate or graduate level topics with directed or independent study formats. Prerequisite: division approval; advanced standing; 30 semester hours of Art & Design courses or equivalent.

By arrangement; 2-10 semester hours.

Industrial Design

INDUSTRIAL DESIGN 107 (IDDSN 107/ITDSN 107)

Product Lab Orientations

This non credit course is required prior to student use of the lab equipment. It is an introduction to the proper operation of equipment and an understanding of the lab rules. Students will gain a respect for the equipment and an understanding and proper equipment practices. Eye protection and other safety protection will be worn at all times while in the lab.

0 semester hours

INDUSTRIAL DESIGN 200

Co-op Work Experience

Through the Co-op program, the student will be placed in full-time and part-time working positions in art, illustration, graphic design, industrial design and interior design. Prerequisite: 30 semester hours; by arrangement.

1-6 semester hours

INDUSTRIAL DESIGN 215

Materials and Manufacturing I

Introduction to ferrous and nonferrous metals and their manufacturing methods, including liquid state, plastic state, and solid state forming; chip and non chip cutting; welding, chemical and mechanical joining; and the finishing process available. Students will develop an individual or group project and complete a semester research/project report.

3 semester hours

INDUSTRIAL DESIGN 216

Materials and Manufacturing II

Introduction to thermoset and thermoplastic polymers and elastomers, rubber and other natural engineering materials and their manufacturing methods, including liquid state, plastic state, and solid state forming, chip and non-chip cutting, welding, chemical and mechanical joining, and the finishing processes available. Students will develop an individual or group project and complete a semester research/project report.

3 semester hours

INDUSTRIAL DESIGN 217 (IDDSN 217/ITDSN 217)

Computer Aided Drafting

In this course students will learn the basics of computer aided drafting. Students will be expected to complete a tutorial and several assigned projects. A semester report including all projects will be completed.

Three 1 semester hour modules

INDUSTRIAL DESIGN 218A (IDDSN 218A/ITDSN 218A)

Beginning CADD

This course is an introduction to computer aided 3D Modeling. Subjects covered will include Introduction and Interface, drawing 2D shapes, mixing straight lines and arcs, numerical input, generating, viewing and rendering objects, moving rotating, sizing and mirroring objects, and drawing derivative objects. Elementary projects may be assigned, and a semester report may be generated.

2 semester hours

INDUSTRIAL DESIGN 218B

Intermediate CADD

This is an intermediate class in computer aided 3D modeling. Subjects covered will include terrain models, curved lines and meshes, deformations, boolean, trim and stitch operations, and attaching extending and attaching objects. Intermediate projects will be assigned, and a semester report will be generated.

2 semester hours

INDUSTRIAL DESIGN 218C

Advanced CADD

This is an advanced class in computer aided 3D modeling. Subjects covered will include reference planes and their palettes; drafting tools, advanced rendering, export features and animation models. Advanced projects will be assigned and a semester report will be generated.

2 semester hours

INDUSTRIAL DESIGN 255

Industrial Design Studio I

A studio course where elementary product design projects are assigned. Projects will begin with advanced foundation studies, along with simple hand held products, and advance through simple mechanically activated products. Emphasis will be placed on aesthetic development, user requirements, and design for manufacturability. A beginning professional portfolio will be initiated. Prerequisite: Foundation courses and Drafting.

3 semester hours

INDUSTRIAL DESIGN 256

Industrial Design Studio II

Continuation of IDDSN 256

3 semester hours

INDUSTRIAL DESIGN 305

Industrial Design Studio III

A studio course where complex product design projects are assigned. These projects will begin with simple, electrically powered products, and advance through more sophisticated electromechanical products. Emphasis will

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be placed on aesthetic development, user requirements, and design for manufacturability. Students will be expected to produce a report for each project and for the semester. A professional portfolio will be further developed. Prerequisite: IDDSN 256, IDDSN 218A &B, and IDDSN 309.

3 semester hours

INDUSTRIAL DESIGN 306

Industrial Design Studio IV

Continuation of IDDSN 305.

3 semester hours

INDUSTRIAL DESIGN 309 (IDDSN 309/ITDSN 309)

Human Factors

Analysis of Human anatomy versus function. Recognition, investigation, exploitation of static/dynamic human movements. Relationships of products, systems and environments to the human scale. Ergonomics and motions that relate to the performance of tasks. Students will develop apparatus to provide significant quantitative data. Variety of advanced studies on dynamic interaction of the body and the environment, products, and systems. Study of the relationship of age, sex, and disabilities to human movements. Creative research projects and the development of mechanical/electric test prototypes to collect quantitative data.

3 semester hours

INDUSTRIAL DESIGN 311 (IDDSN 311/ITDSN 311)

Exhibit Design

A course exploring the fields of display and exhibit design including trade shows, fairs, theme exhibits, mobile exhibits, pavilion and museum design, point of purchase, window and showroom design. The student will be exposed to a variety of project experiences including rendered presentations, model making and construction details. Area included will cover special effects, dioramas, crowd flow management, lighting design, acoustics, graphics, signage, subcontract specifications and portfolio techniques unique to the field. Field trips. Prerequisite: ADSN 205, ADSN 206.

3 semester hours

INDUSTRIAL DESIGN 355

Industrial Design Studio V

A studio course where complex product system projects are assigned. Projects will include sophisticated electromechanical products. Emphasis will be placed on research, aesthetic development, user requirements, and design for manufacturability. Project reports will be generated which will include detailed analysis, synthesis, material specification, and complete

design documentation. A professional portfolio will be completed. When possible, the student is encouraged to work with other professions like engineering and with corporate sponsorship. Prerequisite: IDDSN 306.

3 semester hours

INDUSTRIAL DESIGN 356

Industrial Design Thesis

A studio course where individual and interdisciplinary group projects of complex product systems are initiated and executed by the student(s). Projects will include sophisticated computer controlled electromechanical products and systems. Emphasis will be placed on research, aesthetic development, user requirements, material specifications, and design for manufacturability. A thesis report will be generated, which will include detailed analysis and synthesis, material specification and complete design documentation, including a set of working drawings and a final model and rendering. A professional portfolio will be completed. Prerequisite: IDDSN 355.

3 semester hours

INDUSTRIAL DESIGN 398

Internship I & II

Summer internship following the Sophomore and Junior years. The student is expected to locate a summer job with the assistance of the ID department. A mutually beneficial job description and expected output will be developed with the participating entity and conveyed to the student. A portfolio of projects is required. Where confidentiality is required, care will be taken to protect the company, yet provide the student with adequate work examples, including a strong emphasis on CAD/CAM. Students will develop a project(s) portfolio and complete an intern project report.

1-6 semester hours each

INDUSTRIAL DESIGN 399

Special Projects

This is an advanced studio course for competitions, sponsored projects, and other design projects like furniture and lighting. Students will develop a semester research/project report.

1-9 semester hours

Interior Design

INTERIOR DESIGN 107 (ITDSN 107/IDDSN 107)

Product Lab Orientations

This non credit course is required prior to student use of the lab equipment. It is an introduction to the proper operation of equipment

and an understanding of the lab rules. Students will gain a respect for the equipment and an understanding and proper equipment practices. Eye protection and other safety protection will be worn at all times while in the lab.

0 semester hour

INTERIOR DESIGN 200

Co-Op Work Experience

Through the co-op program, the student will be placed in full-time and part-time work working positions. Prerequisite: Completion of 30 semester hours; Permission of advisor and School Director; by arrangement.

3 semester hours

INTERIOR DESIGN 215

Interior Construction Systems

Students study architectural systems, details, and building codes. Construction methods and materials of foundations, walls, partitions, floors, ceilings, and roofs are covered, as well as doors, windows, stairs, and fireplaces. Continued study of building components and energy systems. Plumbing, heating, ventilating, air conditioning, acoustics and solar energy will be examined. Students will be able to represent knowledge of systems and syb-structure details.

3 semester hours

INTERIOR DESIGN 217

Color Studies for Interiors

This course is an extension of 2D principles/ Color Theory. Students are introduced to further color studies and rendering techniques using various media. Additional studies will focus on composition of materials/color boards as visual presentation tools.

3 semester hour modules

INTERIOR DESIGN 218A (ITDSN 218A/IDDSN 218A)

Beginning CADD

This course is an introduction to computer aided 3D Modeling. Subjects covered will include Introduction and Interface, drawing 2D shapes, mixing straight lines and arcs, numerical input, generating, viewing and rendering objects, moving rotating, sizing and mirroring objects, and drawing derivative objects. Elementary projects may be assigned, and a semester report may be generated.

2 semester hours

INTERIOR DESIGN 218B (ITDSN 218B/IDDSN 218B)

Intermediate CADD

This is an intermediate class in computer aided 3D modeling. Subjects covered will include terrain models, curved lines and meshes, deformations, boolean, trim and stitch operations, and attaching extending and attaching

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objects. Intermediate projects will be assigned, and a semester report will be generated.

2 semester hours

INTERIOR DESIGN 218C (ITDSN 218C/IDDSN 218C)

Advanced CADD

This is an advanced class in computer aided 3D modeling. Subjects covered will include reference planes and their palettes; drafting tools, advanced rendering, export features and animation models. Advanced projects will be assigned and a semester report will be generated.

2 semester hours

INTERIOR DESIGN 255

Studio I

Introductory level course in Interior Design. Application of design theory to commercial and residential interiors. Introduction to human factors, programming, space planning, application of color, form, texture, pattern and aesthetic sensitivity to various interior problems with an emphasis on creativity and innovation. Students will communicate design ideas with a variety of two and three dimensional presentation techniques.

3 semester hours

INTERIOR DESIGN 256

Studio II

Exploration of more complicated problems in commercial and residential interiors with continued emphasis on human factors, space planning, creativity and innovation. Application of knowledge of architectural systems to design solutions. Introduction to multi level spaces, atypical users and barrier free design. Design solutions will be presented using a variety of two and three dimensional skills with continued development of media and presentation techniques.

3 semester hours

INTERIOR DESIGN 303

Materials, Products and Applications

Examination of background finishes and materials from construction and manufacturing processes through measurement and installation methods. Areas covered include floor, wall, and ceiling materials as well as woods, laminates, and glass.

3 semester hours

INTERIOR DESIGN 304

Business Practices and Ethics

Lecture course on business practices and professional ethics as applied to the Interior Design profession. Survey of business types, marketing and selling of services and products, and fee structures will be discussed. Current

trends in safety, codes and licensing issues will be explored. Examination and preparation of business forms including contractual agreements, budget estimates, purchase orders, and invoices will be covered in depth and applied to the thesis project. Prerequisite: ITDSN 356

3 semester hours

INTERIOR DESIGN 305

Studio III

Introduction to more difficult Interior problems in both commercial and residential design. Students will work more advanced programming, space planning, circulation problems and human factors. Continued emphasis on creativity and innovative problem solving. Application of architectural and energy systems as well as safety and building codes to design solution. Sensitivity to atypical users and their needs will be expanded. Architectural and design details, materials and finishes will be incorporated in the final design proposal. Prerequisite: ITDSN 265, ITDSN 266.

3 semester hours

INTERIOR DESIGN 306

Studio IV

Continued development of knowledge and skills learned in Interior Design 305 to effectively solve interior design problems in residential and commercial design solutions. Design proposals will be presented Prerequisite: ITDSN 355.

3 semester hours

INTERIOR DESIGN 355

Studio V (Thesis)

Students will develop a thesis project in Interior Design which will highlight their ability to solve complicated design problems creatively while being sensitive to human factors, structure and energy systems, programming, circulation, materials and finishes, design details, custom cabinetry and furniture. The design solution will be presented using a variety of advanced two level and three dimensional techniques. Rationale for solution will be validated by research data. Prerequisite: ITDSN 356.

3 semester hours

INTERIOR DESIGN 356

Studio VI

Course involving extensive work in large office space planning and residential design. Knowledge of interior products and specifications will be incorporated into design solutions. Students will assemble a final portfolio representative of their design education experiences. Prerequisite: ITDSN 365.

3 semester hours

INTERIOR DESIGN 307

Lighting

An introductory course in Lighting for Interior Spaces. What light is, how it can be produced and how the eye perceives it will be examined. Students will learn basic lighting terminology as well as what equipment is available for commercial and residential use and their appropriate applications. The effect of light to create a mood or atmosphere will be explored. Lighting plans for interior spaces will be generated with an emphasis on technical as well as aesthetic concerns.

3 semester hours

INTERIOR DESIGN 309 (ITDSN 309/IDDSN 309)

Human Factors

Analysis of Human anatomy versus function. Recognition, investigation, exploitation of static/dynamic human movements. Relationships of products, systems and environments to the human scale. Ergonomics and motions that relate to the performance of tasks. Students will develop apparatus to provide significant quantitative data. Variety of advanced studies on dynamic interaction of the body and the environment, products, and systems. Study of the relationship of age, sex, and disabilities to human movements. Creative research projects and the development of mechanical/electric test prototypes to collect quantitative data.

3 semester hours

INTERIOR DESIGN 311 (ITDSN 311/IDDSN 311)

Exhibit Design

A course exploring the fields of display and exhibit design including trade shows, fairs, theme exhibits, mobile exhibits, pavilion and museum design, point of purchase, window and showroom design. The student will be exposed to a variety of project experiences including rendered presentations, model making and construction details. Area included will cover special effects, dioramas, crowd flow management, lighting design, acoustics, graphics, signage, subcontract specifications and portfolio techniques unique to the field. Field trips. Prerequisite: ADSN 205, ADSN 206.

3 semester

INTERIOR DESIGN 312

Furniture Design

Students will have an opportunity to do specialized design work in furniture. Exploration of materials, colors, textures, forms, human factors and manufacturing techniques to create uniquely aesthetic and functional solutions to furniture design problems. Students will be required to do free hand and orthographic

Art & Design • Biology

drawings as well as a variety of three dimensional models from sketch to final prototype.

Prerequisite: ITDSN 309.

3 semester hours

INTERIOR DESIGN 362

Construction Documents

Preparation of Construction Documents for Interiors will be covered in depth and applied to the Thesis project. Drawings to be prepared include construction/demolition, electric/telephone, reflected ceiling, floor finishes, applied finishes, panel and post, and furniture plans as well as detail drawing for special construction, custom cabinetry, furniture and millwork.

Prerequisite: ITDSN 365.

3 semester hours

INTERIOR DESIGN 398

Internship

Professional, supervised, paid or unpaid work in an organization related to career goals. Students will be required to develop a project portfolio and complete an intern project report. Prerequisite: Permission of advisor and School Director.

3 semester hours

Biology

BIOLOGY 101

General Organism Biology

The course examines the diversity of life in terms of their taxonomy, anatomy, physiology and ecology. Emphasis is placed on variation, adaptation, and evolutionary mechanisms. Prerequisites: No prerequisite for majors; WPI for non-majors.

3 class periods; 1 three-hour laboratory; 4 semester hours

Offered: Fall and Spring

BIOLOGY 102

Cell-Molecular Biology

Students are exposed to the general biological principles that govern all living organisms. Concepts dealt with include origin of life, structure and function of cells at the cellular and molecular level, biochemistry, genetics and evolution. Required of all biology majors. Prerequisite: CHEM 113 or CHEM 114 with grade C or better OR Corequisite: CHEM 103 .
3 class periods; 1 three-hour laboratory; 4 semester hours

Offered: Fall and Spring

BIOLOGY 106

Elementary Microbiology

This course is designed to provide students with an introduction to and overview of the key areas of microbiology for the healthcare professional. The course will cover the structure, growth, metabolism and genetics of microorganisms associated with human diseases. The course then covers host-microbe interactions and microbial diseases, and methods of control of infectious agents.

3 class periods; 1 three-hour laboratory; 4 semester hours

Offered: Fall and Spring

BIOLOGY 111

Elementary Human Anatomy

A fully online one semester human anatomy and physiology course for non-science majors to fulfill the University's natural science requirement for online Psychology majors and other undergraduates.

3 semester hours

BIOLOGY 113

Anatomy and Physiology I

Anatomy and physiology combined to yield a fundamental knowledge of the human body. Structure and function taught concurrently, each in terms of the other, to engender appreciation of interlocking relationships.

2 75-minute class periods; 1 two-hour laboratory; 4 semester hours

Lab Fee Assessed

Offered: Fall and Summer

BIOLOGY 114

Anatomy and Physiology II

Anatomy and physiology combined to yield a fundamental knowledge of the human body. Structure and function taught concurrently, each in terms of the other, to engender appreciation of interlocking relationships.

2 75-minute class periods; 1 two-hour laboratory; 4 semester hours

Lab Fee Assessed

Offered: Spring and Summer

BIOLOGY 200

Biology Volunteer Internship

Students may earn up to 3 credits doing trained volunteer work in a field relevant to the discipline. A written report will be required describing significant work achievements resulting from work experience. Approximately 100 hours are required to be considered equivalent to one credit. Prerequisite: Permission of Chair.

By arrangement;

1-3 semester hours; maximum 3 credits; Pass/Fail only.

BIOLOGY 201

Biosurvival

Learn to recognize local plants and animals and learn how they can be used to survive in the wilderness, pitch a weather resistant camp, make fires, purify water, and navigate on and off trail. A 3-day final survival hike is required. Prerequisite: 1 Basic Biology Course and Biology Department chair approval.

3 class periods; field trip required; 3 semester hours

BIOLOGY 202

Human Evolution

A three hour studio-type course, integrating the lecture and lab experience. Students will cover the basic principles and mechanisms of micro- and macroevolution and its impacts on the distribution of human populations, human health and human behavior. The class will combine lecture, reading, discussion, independent projects, and hands-on exercises from the biological literature and other disciplines involved in the study of human migration and the evolution of human sociality. Prerequisite: Biology 101 and Biology 102.

3 class periods; 3 semester hours

BIOLOGY 203

Human Sexual Biology

Human sexual biology is examined within the context of male and female reproductive system structure, function and dysfunction. Modern biomedical and biotechnological issues and methodologies as they might relate to the present and future course of human sex and reproduction are explored.

3 semester hours

Offered: Fall only

BIOLOGY 210

Comparative Anatomy

An integrated study of vertebrate structure from a phylogenetic approach. Laboratory studies will include dissection of representative forms. Prerequisite: Biology 101. Minimum Grade C.

2 class periods, 2 three hour-laboratory; 4 semester hours

Lab Fee Assessed

BIOLOGY 211

General Physiology

Topics include physiological and biochemical control and functioning in systems. Labora-

Biology

tory work will acquaint the student with basic physiologic experimentation, and the interpretation and presentation of data. Required of all biology majors. Prerequisite: Biology 102.

3 class periods; 1 three-hour laboratory; 4 semester hours

Offered: Spring and Summer

BIOLOGY 213

Anatomy and Physiology I

Anatomy and physiology combined to yield a workable knowledge of the human body. Structure and function taught concurrently, each in terms of the other to engender appreciation of interlocking relationships. Available to biology majors on a restricted basis.

3 class periods; 1 two-hour laboratory; 4 semester hours

Lab Fee Assessed

BIOLOGY 214

General Anatomy and Physiology II

This is part two of a two semester course intended for biology majors. This course is an in depth survey of human anatomy and physiology that examines the relationships between structure and function. The lecture topics will include basic chemistry, cell biology, histology, organs and organ systems. The two-hour laboratory includes experimental activities, microscopy and gross anatomy. Dissections will be used to study select organ systems. Although it is not required, it is recommended that students take this course in sequence (Biology 213 then Biology 214). Prerequisites: two courses from Biology 101, Biology 102, Biology 213.

3 class periods; 1 two hour laboratory; 4 semester hours

Offered: Spring only

BIOLOGY 217

Field Biology

Students will design and implement a small research project requiring field work in a New England ecosystem as specified by the instructor. Emphasis on the relationship between abiotic factors and plant communities. Prerequisite: Biology 101

1 class period, field trip required; 1 semester hour

BIOLOGY 223

Ecology

The course explores the relationship of organisms to their environment; distribution, climatic factors, ecological succession; homeostasis and adaptability of organisms are considered. Field trips designed to emphasize and illustrate major habitats, life zones, and ecological prin-

ciples. Required of all biology majors. Prerequisite: Biology 101 and Biology 102.

3 class periods, field trips by arrangement, 1 three-hour laboratory; 4 semester hours

Lab fee assessed

Offered: Fall only

BIOLOGY 236

Vertebrate Biology

The evolution, physiology, and ecology of the vertebrates, with an emphasis on terrestrial taxa. Prerequisite: Bio 101.

4 semester hours

BIOLOGY 300

Internship

Practical application of previous coursework during supervised training in commercial, government or private laboratories. A written report will be required describing significant work achievements resulting from work experience. Approximately 100 hours are required to be considered equivalent to one credit. Prerequisite: Permission of Chair. By arrangement; *1-3 semester hours; Pass/Fail only*

BIOLOGY 303

Histology

Detailed analysis of the microscopic structure of animal cells and tissues. Laboratory work limited to study of prepared microscopic material. Prerequisite: Biology 102 and Biology 211.

3 class periods; 1 three-hour laboratory; 4 semester hours

Offered: Spring only

BIOLOGY 307

Genetics

The laws of biological inheritance and their practical application to life; fundamental observations and concepts of classical and molecular genetics from Mendel to modern molecular biology. Topics include basic principles of heredity, chemical nature of the genetic material, genomics, cytogenetics, mutation, gene expression and regulation. Brief consideration of population genetics. Required of all biology majors. Prerequisite: Biology 101 and Biology 102, or instructor's permission.

3 class periods; 3 semester hours

BIOLOGY 307L

Genetics Laboratory

1 semester hour

BIOLOGY 317

Mycology, Parasitology and Virology

Overview of medically significant fungi, parasites, and viruses. Emphasis will be placed on pathogenesis, modes of transmission, and

identification. Laboratory techniques used in isolation, cultivation, and identification will be used. Also included will be discussions of epidemiology and host response regarding these microorganisms. Prerequisite: Biology 101, Biology 102 with a minimum grade of C.

3 class periods; 2 two-hour laboratory periods; 4 semester hours

Offered: Spring only

BIOLOGY 318

Environmental Health

This course is designed to explore current environmental and public health concerns and issues. Students will gain an understanding of the interaction of individual and communities with the environment, the potential impact on health of environmental agents. The sequence of major topics begins with environmental epidemiology and toxicology, policy and regulation. The course then covers specific agents of environmental diseases. Domains of environmental health are addressed. Prerequisites: Biology 101 and Biology 102.

3 class periods; field trips by arrangement, 3 semester hours

Offered: Spring only

BIOLOGY 320

Microbiology

Presentation of fundamentals of Bacteria, fungi and viruses; their relationships to man, industry, and agriculture. Laboratory study of cultural, morphological, physiological, and genetic properties of representative types. Emphasis on development of technique. Prerequisite: Biology 211 or the combination of BIOL 213 and BIOL 214. Minimum grade of C. BIOL 214 may be taken concurrently.

2 class periods; 2 two-hour laboratory periods; and some nonscheduled laboratory work; 4 semester hours

Offered: Spring only

BIOLOGY 321

Cell Physiology

A lecture course exploring the homeostatic mechanisms of the cell. Chemical composition, metabolism, permeability, synthesis and growth. Required of all biology majors. Prerequisite: Biology 211, Minimum grade B.

3 semester hours

Offered: Fall only

BIOLOGY 324

Endocrine and Reproductive Biology

A review of endocrine tissues, the hormones they produce, and their mechanisms and interactions with special emphasis on human

Biology

reproductive endocrinology and physiology. Prerequisite: Biology 211, Minimum grade B.

3 semester hours

Offered: Fall only

BIOLOGY 330

Marine Biology and Ecology

Examination of the ecology of the oceans; relation of distribution to physical and chemical environments; productivity of marine communities; and the interaction of man with marine communities. Prerequisite: Biology 101 & 102 or permission of the instructor.

3 class periods; 1 three-hour laboratory; 4 semester hours

BIOLOGY 331

Marine Science, Biology, and Ecology II

A continuation of the examination of the biology, ecology and physical environment of the oceans, with an emphasis on current experimental work in the field. Prerequisite: BIOL 330

4 semester hours

BIOLOGY 328

Environmental Chemistry

This course will explore the chemistry of natural environments, including sea water, aquatic systems, and soils. Emphasis on natural process and anthropogenic processes and the impact of both on local biomes. Laboratory work will cover sampling and analytical techniques. Prerequisite: Biol 223, Chem 203.

4 semester hours

BIOLOGY 332

Medical Microbiology

The study of infectious disease processes; the biology of pathogenic microorganisms; the etiology, pathology, diagnosis, and epidemiology of viral, bacterial, fungal, and protozoal diseases. Prerequisite: Biology 320

3 class periods; 1 three-hour laboratory; 4 semester hours

BIOLOGY 341

Immunology

Consideration of the basic principles and concepts of the mechanics of immunity and the relation of immunological phenomena to biological problems. Prerequisite: BIOL 211 or instructors permission.

3 class periods; 1 three-hour laboratory periods; 4 semester hours

BIOLOGY 343

Medical Genomics

This course covers the basic biochemistry of proteins and nucleic acids and the techniques

used to isolate, quantify, and characterize them. The class focuses heavily on the genomics of disease processes and the techniques used to diagnose and manage them. The course includes both laboratory exercises and review of case studies. Prerequisite: Bio 102.

2 class periods; 1 two-hour laboratory; 3 semester hours

BIOLOGY 344

Toxicology

Pharmacologic studies of the effects of drugs on living organisms and the adverse effects induced by physical and chemical agents, including therapeutic agents. Prerequisite: CHEM 206 and BIOL 211 or instructor's permission.

3 class periods; 1 three-hour laboratory periods; 4 semester hours

BIOLOGY 345

Molecular Biology

The study of genes and their activity at the molecular level, DNA replication and repair, transcription, translation, recombination, translocation, and mutations. Techniques and experiments leading to important discoveries on DNA will be covered. Required of all biology majors. Prerequisite: BIOL 211 or 214, and CHEM 206 or CHEM 203. Minimum grade of C.

3 lecture hours; 1 three-hour laboratory period; 4 semester hours

BIOLOGY 380

Selected Topics

Modern concepts in the area of the instructor's specialty. To be announced each semester.

*1-4 semester hours**

BIOLOGY 381

Virology

This course is aimed to advance undergraduate understanding of the fundamental aspects of prokaryotic and eukaryotic viruses. The course will cover viral morphology, taxonomy, molecular biology, disease, and control. Prerequisite: BIOL 211 or instructors permission.

3 class periods; 3 semester hours

BIOLOGY 398

Readings

Individual library studies under faculty direction in an area of student interest. An acceptable paper must be presented. Prerequisite: Permission of the instructor and Department Chair.

*1-6 semester hours**

BIOLOGY 399

Directed Research

Opportunity for the student to pursue labora-

tory research under the direction of a faculty specialist. Prerequisite: Permission of the instructor and Department Chair.

*1-6 semester hours**

*A student may not take more than 6 semester hours of total combined credit in 398 & 399.

BIOLOGY 403

Histology

Detailed analysis of the microscopic structure of animal cells and tissues. Laboratory work limited to study of prepared microscopic material. Prerequisite: Biology 102, 211.

3 class periods; 1 three-hour laboratory periods; 4 semester hours

BIOL 404

Tissue Culture

Introduces graduate students and qualified undergraduate students to the preparation and process of culturing animal cells and cell lines in a laboratory. With a major focus on routine maintenance and record-keeping, including media preparation, cryopreservation, applications of tissue engineering, and troubleshooting common culture problems.

3 semester hours

BIOLOGY 414

Spatial and Biological Modeling

The course will discuss building and using mathematical model of biological and spatial processes, including inference for sampling methods. Prerequisite: Math 110.

3 semester hours

BIOL 415

Animal Nutrition

An extensive study of the nutrient requirements of animals during their life cycle under various physiological and pathological conditions. Furthermore, the physiological and biochemical bases of nutrition in farm and laboratory animals with emphasis on metabolic pathways leading to inherited diseases in humans and animals will be covered. Animal nutrition has great scientific, social, and economic significance.

3 semester hours

BIOL 421

Advanced Cell Physiology

A graduate lecture course exploring the fundamentals of the cell. This course will emphasize key topics related to our knowledge of molecular and cellular biosciences. Students will focus on critical thinking and problem solving to understand the science of the cell.

3 semester hours

Biology • Business Administration

BIOLOGY 418

Environmental Health

This course is designed to explore current environmental and public health concerns and issues. Students will gain an understanding of the interaction of individual and communities with the environment, the potential impact on health of environmental agents. The sequence of major topics begins with environmental epidemiology and toxicology, policy and regulation. The course then covers specific agents of environmental diseases. Domains of environmental health are addressed. Prerequisites: Biology 101 and 102
3 class periods; field trips by arrangement, 3 semester hours

BIOL 423

Advanced Ecology

Advanced Ecology explores recent research in the ecological literature from primary sources such as Ecology, TREE, and comparable journals.
3 semester hours

BIOLOGY 424

Climate Change and Biodiversity

A review of the recent literature on the impacts of climate change on local and global ecology and other factors that impact on biodiversity. The course will emphasize factors promoting ecosystem resilience and conservation efforts. Prerequisite: Bio 107 and Bio 223.
3 semester hours

BIOLOGY 425

Urban Ecology

A review of the recent literature on the biodiversity and ecology of urban and near-urban biomes. The course will emphasize species turnover and how urban biodiversity impacts nearby habitats. Prerequisite: Bio 107 and Bio 223.
3 semester hours

BIOL 443

Advanced Molecular Biology

The study of genes and their activity at the molecular level, DNA replication and repair, transcription, translation, recombination, translocation, and mutations. Techniques and experiments leading to important discoveries on DNA will be covered.
3 semester hours

BIOL 445

Advanced Methods in Molecular Biology

A graduate laboratory course exploring the fundamental skills required by molecular biology and biotechnology. This course will

emphasize key methodologies utilized in both biotechnology industries and molecular biology research by focusing on a semester-long molecular project involving PCR-based mutagenesis, cloning, DNA sequencing, and protein analysis.

3 semester hours

multiple formats. Background understanding of politically correct, culturally sensitive, and ethically sound communication will also be reinforced.

3 semester hours

BUSINESS ADMINISTRATION 200

Co-op Work Experience

A paid work experience related to the student's major. Faculty approval required.

0-1 semester hours

Offered: Spring/Summer/Fall

BUSINESS ADMINISTRATION 300

Philanthropy

An introduction to Philanthropy, its origins, functions, and purposes in society. Topics include Reasons to Give, Planned Giving, Charities, Required Elements for a Charitable Gift, Federal Charitable Income Tax Deductions, Federal Estate and Gift Tax Deductions, Valuing and Substantiating Contributions, Charitable Remainder Trusts (CRT) and Alternatives, Charitable Lead Trusts, Issues Common to All Charitable Trusts, Financial Planning, Charitable Estate Planning, Business Succession Planning, Retirement Planning, Planning for Real Estate, Private Foundations, Supporting Organizations, Endowment Funds and Donor-Advised Funds, and Investing Charitable Donations.

3 Semester hours

Offered: Fall only

BUSINESS ADMINISTRATION 314

Real Estate Principles

An introduction to real estate. Survey of various aspects of the real estate business including marketing, finance, development, law, investment, and appraisal.

3 semester hours

BUSINESS ADMINISTRATION 382

Internship

Field study of an organization in action. Students can fulfill the course requirements in one of three ways: a) to do an internship in an outside organization or one of the learning institutes within the College, and submit a paper with an analysis of their experiential learning; b) to write a case study with critical evaluation of an organization in action; or c) to develop a new business venture and submit a comprehensive business plan.

3-6 semester hours

Offered: Spring/Summer/Fall

BUSINESS ADMINISTRATION 399

Independent Study

Capstone Seminar • Chemistry

An opportunity to specialize in advanced projects not covered by regular course offerings. Students have individual conferences with assigned faculty members and meet several times as a group to discuss findings and common problems.

1-3 semester hours

Offered: Spring/Summer/Fall

Capstone Seminar

CAPSTONE 390

Capstone Seminar

The Capstone Seminar is the culmination of learning in the Core Curriculum. As such, it reflectively builds upon learning from the various liberal arts. The course is conducted as a seminar and thus requires substantial reading and informed participation. All students write an original essay that integrates themes raised in course readings and discussions. Prerequisite: Completion of at least 75 semester credit hours and fulfillment of all other Core requirements.

3 semester hours

Chemistry

CHEMISTRY 101

Chemistry, Society and You

The student is introduced to chemistry and its effect on society with examples related to the environment, pollution, the energy crisis and the drug culture. Students examine both the investigative methods of chemistry and its interaction with public policy.

2 lecture hours; 1 discussion period or two-hour laboratory period; 3 semester hours

CHEMISTRY 103

General Chemistry I

A study of basic chemical principles and their application. This course is designed for the science and engineering majors and includes theoretical and experimental studies of such topics as composition and structure of matter, stoichiometry, chemical reactions, chemical bonding, gases, atomic and molecular structure, and periodic trends.

Prerequisites: Mathematics 106 with minimum grade C. Co-requisite: CHEM 103L unless passed in a previous semester.

3 lecture hours; 1 discussion period; 3 semester hours.

CHEMISTRY 103L

General Chemistry (Laboratory 1)

A companion laboratory course to CHEM-103 designed to provide the student with the opportunity to apply principles learned in lecture. Pre/Co-requisite: Chemistry 103

1 semester hour. Lab fee assessed.

CHEMISTRY 104

General Chemistry II

This course completes the sequence in general chemistry for science and engineering majors. Topics include equilibrium, acids and bases, thermodynamics, nuclear chemistry, and an introduction to organic chemistry.

Prerequisites: Chemistry 103 and CHEM 103L both with minimum grade C

Co-requisite: CHEM 104L unless passed in a previous semester.

3 lecture hours; 1 discussion period; 3 semester hours

CHEMISTRY 104L

General Chemistry (Laboratory II)

A companion laboratory course to CHEM-104 designed to provide the student with the opportunity to apply principles learned in lecture.

Pre/Co-requisite: Chemistry 104

1 semester hour. Lab fee assessed.

CHEMISTRY 113

Introductory Chemistry

An introductory course in chemistry for liberal arts and pre-professional students who wish to broaden their general education or feel that their previous preparation was inadequate. Pre-med and science majors are strongly advised to take CHEM 103, although credits may be given for the CHEM 113, CHEM 103, and CHEM 104 sequence.

Prerequisites: Mathematics 103 with minimum grade C.

Co-requisite: CHEM 113L unless passed in a previous semester.

3 semester hours

CHEMISTRY 113L

Introductory Chemistry (Laboratory)

A companion laboratory course to CHEM-113 designed to provide the student with the opportunity to apply principles learned in lecture.

Pre/Co-requisite: Chemistry 113

1 semester hour. Lab fee assessed.

CHEMISTRY 114

Introduction to Biochemistry

After a brief review of general chemistry and an introduction to organic chemistry, the biochemistry of carbohydrates, fats, proteins, nucleic acids, vitamins, enzymes, and hormones are studied. These studies are applied to understand diseases caused by metabolic

disturbances and in-born errors of metabolism. Prerequisite: Chemistry 113 and CHEM 113L both with minimum grade C. Co-requisite: CHEM 114L unless passed in a previous semester.

3 lecture periods; 3 semester hours

CHEMISTRY 114L

Introduction to Biochemistry (Laboratory)

A companion laboratory course to CHEM-114 designed to provide the student with the opportunity to apply principles learned in lecture.

Pre/Co-requisite: Chemistry 114

1 semester hour. Lab fee assessed.

CHEMISTRY 200

Chemistry Co-op

Students who enter the Chemistry/Co-op Program register for this course each semester they are on a paid work assignment with an employer. All work assignments must be approved by the Chemistry Co-op director. A report is required. Prerequisite: Chemistry 104 with minimum grade C.

1 semester hour per week-semester to a maximum of 6 semester hours

CHEMISTRY 202

Principles of Chemical Analysis

An introduction to the physiochemical behavior of electrolytic solutions, and its application to chemical separations and analyses. Prerequisites: Chemistry 104 with minimum grade C.

3 lecture hours; 1 three-hour laboratory period; 4 semester hours

Lab fee assessed

CHEMISTRY 203

Principles of Organic Chemistry

Students are provided with a one-semester overview of organic chemistry with an emphasis on organic compound structure and an understanding of the fundamental mechanics of organic chemical reactions. Students registering in Chem 203 may not use it as a replacement for Chem 205 or Chem 206. Prerequisite: Chemistry 104 with minimum grade C.

3 lecture hours; 1 three-hour laboratory period; 4 semester hours

Lab fee assessed

CHEMISTRY 205

Organic Chemistry I

Students will study aliphatic and aromatic compounds, synthesis of organic compounds, properties, and reaction mechanisms. Laboratory work will involve techniques, synthesis, properties and typical reactions.

Prerequisites: Chemistry 104 and Chemistry 104L both with minimum grade C.

Chemistry • Chinese

*3 lecture hours; 1 three-hour laboratory period; 4 semester hours
Lab fee assessed*

CHEMISTRY 206

Organic Chemistry II

The student will further the studies of CHEM-205 and extend the exploration of aliphatic and aromatic compounds, synthesis of organic compounds, properties and reaction mechanisms. Laboratory work in techniques, synthesis, properties and typical reactions. Prerequisites: Chemistry 205 with minimum grade C.

3 lecture hours; 1 three-hour laboratory period; 4 semester hours; Lab fee assessed

CHEMISTRY 302

Analytical Methods

The student is introduced to analytical chemistry for students not majoring in chemistry. This course will help in understanding how technical information is obtained and interpreted. It will cover topics such as statistics, gravimetric and volumetric methods of analysis as well as an introduction to modern methods of analysis, such as chromatography, spectroscopy and electrochemistry.

Prerequisites: Chemistry 104 and Chemistry 104L both with a minimum grade C.

*3 lecture hours; 1 three-hour laboratory period; 4 semester hours
Lab fee assessed*

CHEMISTRY 319

Physical Chemistry I

Principles of Thermodynamics and structure of matter applied to homogeneous and heterogeneous equilibria, electrochemistry, reaction kinetics are explored. Must be taken with Chemistry 321, Chemistry 322 unless prior credit has been earned. Prerequisite: Chemistry 302, Mathematics 215, Physics 112.

3 lecture hours; 3 semester hours

Lab fee assessed

CHEMISTRY 320

Physical Chemistry II

The student will further the studies presented in CHEM-319. Principles of Thermodynamics and structure of matter applied to homogeneous and heterogeneous equilibria, electrochemistry, reaction kinetics are explored further. Must be taken with Chemistry 321, 322 unless prior credit has been earned. Prerequisite: Chemistry 319 with minimum grade C.

3 lecture hours; 3 semester hours

Lab fee assessed

CHEMISTRY 360

Principles of Biochemistry

A one semester survey course designed for life science majors requiring only one semester of biochemistry. Topics will cover basic concepts, including pH, biological buffers, bioenergetics, nucleotides, amino acids, proteins, enzymes, carbohydrates, lipids, intermediary metabolism, and molecular biology. Prerequisite: Chemistry 206 or Chemistry 203 with minimum grade C.

4 semester hours

CHEMISTRY 365

Biochemistry I

The unifying and quantifying central concepts of biochemistry are studied by applying fundamental physicochemical principles of biological systems. Mechanisms and regulation of major metabolic pathways and structure and function of cellular elements on the molecular scale are covered in detail. Prerequisite: Chemistry 206 with minimum grade C.

3 lecture hours; 1 three-hour laboratory period; 4 semester hours

Lab Fee Assessed

CHEMISTRY 366

Biochemistry II

An extension of CHEM 365 studies. The unifying and quantifying central concepts of biochemistry are studies by applying fundamental physicochemical principles of biological systems. Mechanisms and regulation of major metabolic pathways and structure and function of cellular elements on the molecular scale are covered in detail. Prerequisite: Chemistry 365 with minimum grade C.

3 lecture hours; 1 three-hour laboratory period; 4 semester hours

Lab Fee Assessed

CHEMISTRY 380

Physiological Chemistry

Physiological Chemistry explores the biochemical mechanisms of disease and the detection of disease states using chemical analyses. This class will prepare the student for the study of clinical chemistry. Students must have successfully completed biochemistry prior to taking this class. Prerequisite: Chemistry 360 with minimum grade C.

3 semester hours

CHEMISTRY 399

Independent Study

The course allows for the opportunity to pursue advanced individual study in a field of interest under the supervision of a specialist.

Prerequisite: Permission of the instructor and the Department Chair.

Semester hours (1-6) arranged

Chinese

CHINESE 101

Elementary Chinese I

In this course students are introduced to the Chinese language and culture. Basic skills in speaking, listening, reading, and writing are developed. Cultural readings and videos are included in each lesson giving the students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. This is a course for students with little or no knowledge of Chinese language.

3 semester hours

CHINESE 102

Elementary Chinese II

This course builds on the foundations laid in Chinese 101 and continues to introduce students to Chinese language and culture. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course students are expected to reach a beginner level of Chinese language proficiency and should be able to understand/identify familiar vocabulary and conversation topics; engage in a conversation in a target language on a familiar topic; express opinions/feelings about a familiar topic; read and comprehend short simple texts; write short simple sentences. Prerequisite: Chinese 101.

3 semester hours

CHINESE 103

Intermediate Chinese I

This course builds on the foundations laid in Chinese 101 and Chinese 102 and provides an opportunity to improve Chinese language proficiency beyond the beginner level. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. Prerequisite: Chinese 102.

3 semester hours

CHINESE 104

Cinema • Computer Applications and Information Systems • Computer Engineering

Intermediate Chinese II

This course builds on the foundations laid in Chinese 103. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course the students are expected to reach an intermediate level of Chinese language proficiency and should be able to understand/identify a range of vocabulary items and topics; engage in a conversation in a target language on a range of topics; express opinions/feelings about a range of topics; read and comprehend medium length texts; write medium complexity sentences. Prerequisite: Chinese 103.

3 semester hours

Cinema

CINEMA 181

Introduction To Film Appreciation

This course introduces students to film analysis and appreciation, providing them with the critical tools necessary to understanding how films combine sound and image to communicate meaning and engage audiences. The course focuses on the foundational concepts of cinematic language and formal film elements, including genre, narrative structure, performance, and style. Screenings will cover a range of film eras and traditions.

3 semester hours

CINEMA 183

Film Technique II

This course builds on the concepts and analytical approaches introduced in Cinema 181 to provide a focused study of a particular film category, including films organized by genre, filmmaker, tradition, or industrial practice.

Pre-requisite: Cinema 181

3 semester hours

CINEMA HISTORY AND THEORY 262

Film History

This class provides an overview of film history, from its earliest forms in the 19th century to the multiple kinds of cinematic production of today. The primary goal of the course is to develop historical appreciation for the way technological, industrial, and cultural developments have impacted cinematic production and experience in different places and eras. The course will explore basic tools of film analysis, introducing students to critical, technical, and aesthetic concepts in response to

particular cinematic practices.

3 semester hours

CINEMA HISTORY AND THEORY 285

Screenwriting I

This course introduces students to the art of visual writing for the short screenplay and involves students in the practice of character development, story design, narrative structure, and dialogue. The course focuses on the fundamentals of premise-driven drama and comedy as well as experimental story-telling techniques.

3 semester hours

CINEMA HISTORY AND THEORY 286

Screenwriting II

This course builds on the concepts and techniques introduced in Screenwriting I while introducing students to the structure and form of the feature length, three-act narrative fiction film. The course structure features single author and collaborative writing as well as writing-workshop critiques.

Pre-requisite: Screenwriting I

3 semester hours

Computer Applications and Information Systems (CAIS)

COMPUTER APPLICATIONS AND INFORMATION SYSTEMS 101 Statistics

This course covers basic statistics, including descriptive statistics, probability, discrete distributions, continuous distributions, sampling, and hypothesis testing. This course is required of all Business students. Prerequisite: Math 103; Minimum grad C, or Math placement exam at Math 109, or higher.

3 semester hours

Offered: Spring/Fall Only

COMPUTER APPLICATIONS AND INFORMATION SYSTEMS 191 Computer Concepts

This course provides elementary instruction in basic productivity packages, like Microsoft's Office 97. It is for those students with no prior exposure to computer applications.

3 semester hours

Offered: Spring/Fall Only

COMPUTER APPLICATIONS AND INFORMATION SYSTEMS 201 Intro to CAIS

This course covers computer and systems hardware, operating systems, application development, the value of information, databases, networks, and their integration and

management within the modern firm. This course is required of all Business students. Prerequisite: CAIS 102.

3 semester hours

Computer Engineering

COMPUTER ENGINEERING 200

Undergraduate Co-op/Internship in Computer Engineering

By arrangement.

1-3 semester hours

COMPUTER ENGINEERING 210

Digital Design I

Basic digital design principles. Boolean algebra. Combinational logic design with gates, MSI, LSI. Sequential logic design; register, counters, memory and programmable logic. Prerequisite: Mathematical sophistication.

3 semester hours

COMPUTER ENGINEERING 286

Introduction to Microprocessors

Theory and application of microprocessors, and associated peripheral devices such as memory, ports, clocks, system design and debugging techniques, including specific design problems using existing devices. Programming aids, including assemblers and simulators. Programming problems including peripheral device service routines and arithmetic operations. Information structures for real-time data acquisition systems. Prerequisite: Computer Engineering 210 and Computer Science 102.

3 lecture hours; 1 three-hour laboratory; 3 semester hours

COMPUTER ENGINEERING 308

Operating Systems

Structure and design issues in modern operating systems. Topics may include OS structure; Threads, CPU scheduling and synchronization of processes; deadlock management; main and virtual memory management; file management; file system interface; I/O structure. Prerequisite: Computer Science 102, Computer Engineering 312.

3 semester hours

COMPUTER ENGINEERING 312

Computer Organization

Organization and Design of modern computer systems. Arithmetic Logic Unit Design, Central processing unit design; RISC vs CISC; Pipeline design for modern RISC architectures and handling pipeline hazards, memory hierarchy design including cache and virtual memory de-

Computer Engineering • Computer Science

sign. Prerequisite: Computer Engineering 315.
3 semester hours

COMPUTER ENGINEERING 315

Digital Design II with Laboratory

Design of complex digital systems; top-down design and modularization. Implementation of datapaths and controllers. Use of hardware design languages (Verilog) to implement systems. Rapid prototyping. Fault tolerant design. Prerequisite: Computer Engineering 210. Laboratory includes implementation of digital systems using FPGAs.

3 lecture hours; 4 semester hours; 1 three hour laboratory

COMPUTER ENGINEERING 347

FPGA Design

Field Programmable Gate Array (FPGA) architectures, HDL synthesis using Verilog, place and route, FPGA configuration, Behavioral, structural and data flow descriptions. FPGA Timing Analysis, Constraints, Clock Domain Crossing and Meta-stability analysis. A major FPGA based design project is assigned in the course. Prerequisite: Computer Engineering 315.

3 lecture hours, 3 semester hours

COMPUTER ENGINEERING 348

Introduction to VLSI Design

Design and implementation of a very large scale integrated circuits. CMOS and BiCMOS technologies, clocking characteristics, resistance, capacitance and power estimation, system-level design and simulation using Verilog. Custom layout and verification using CAD tools. Synthesis of designs from Verilog descriptions. Term project will include the design and testing of an integrated circuit.

Prerequisites: Computer Engineering 315 and Electrical Engineering 348.

3 lecture hours, 3 semester hours

COMPUTER ENGINEERING 349 A

Senior Project

Major open-ended design project to integrate student's knowledge of hardware and software. Formulation of design specifications, use of design tools, feasibility considerations. Prerequisites: Computer Engineering 312, 387, Engineering 290, English 204, Integrated Studies C101 and senior status.

1 semester hours

COMPUTER ENGINEERING 349 B

Senior Project

Major open-ended design project to integrate student's knowledge of hardware and soft-

ware. Formulation of design specifications, use of design tools, feasibility considerations. Prerequisites: Computer Engineering 312, 387, Engineering 290, English 204, Integrated Studies C101 and senior status.

1 semester hours

COMPUTER ENGINEERING 360

Introduction to Robotics

3 semester hours

COMPUTER ENGINEERING 371

Data and Computer Communications

Introduction to data communication. Frequency response, bandwidth, filtering and noise. Fourier series and Fourier transform. Information theory concepts: Nyquist's theorem, Shannon's and Sampling theorems. Analog and digital modulation techniques. Pulse Code Modulation (PCM). Communication systems circuits and devices. Data encoding. Physical layer protocols. Data link control (point to point communication, design issues, link management, error control, flow control). Multiplexing and switching. Prerequisites: Computer Science 102; Computer Engineering 210.

3 lecture hours, 3 semester hours

COMPUTER ENGINEERING 373

Local Area Networks

3 semester hours

COMPUTER ENGINEERING 387

Embedded System Design

Design of systems having major hardware and software components. Software implementations are used to control specific hardware such as micro controllers. Major laboratory emphasis to realize embedded systems. Prerequisite: Computer Engineering 286.

3 semester hours

COMPUTER ENGINEERING 389

Software Engineering

Structural development and methodology for large software systems. Planning requirements, design, test and validation. Advanced topics in software development. Prerequisites: Computer Science 102 and senior status.

3 semester hours

COMPUTER ENGINEERING 399

Independent Study in Computer Engineering

Independent study of advanced topics in Computer Engineering and submission of project report as required. Problem assignment to be arranged with and approved by the Department Chair. Open only to qualified seniors

3 semester hour

Computer Science

COMPUTER SCIENCE 101

Introduction to Computing I

Introduction to high level languages, data types, subprograms; arrays and records. Object-Oriented Programming, classes, inheritance, Algorithmic development and software design concepts.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 102

Introduction to Computing II

Introduction to data structures. Top-down design and structured programming, debugging. String processing, stacks, queues, lists, linked lists, trees, hash tables. Searching and sorting. Prerequisite: Computer Science 101.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 200

Undergraduate Co-op/Internship in Computer Science

By arrangement.

1-3 semester hours

COMPUTER SCIENCE 201

Advanced Data and File Structures

Advanced treatment of data structures and file structures including manipulating data stored in the file systems. Topics include fundamentals of file processing operations, secondary storage characteristics, and managing files of records. Additional topics will include performance file organization, sorting large files, multi-level indexing, 2-3 Trees, B-Trees, and Hashing and Extendable Hashing. Prerequisites: Computer Science 102.

3 lecture hours, 3 semester hours

COMPUTER SCIENCE 203

Second Programming Language

A class for computer science majors to broaden the programming background. Students will take a course in a language other than the current teaching language. This class is not an actual course, but a number of departmental course offerings may satisfy this requirement. Courses which may be taken will include computer science offerings which assume programming competency (CPSC 101 and CPSC 102 equivalent) in the instructional language. The department will announce courses which qualify for satisfaction of CPSC 203 requirement. Pre-requisites: CPSC 102.

3 lecture hours, 3 semester hours

COMPUTER SCIENCE 227

Discrete Structures

Computer Science • Criminal Justice and Human Security

This course is an introduction to some of the discrete mathematical structures relevant to computer science, including set theory, propositional calculus, predicate calculus, algebraic operations and relations, counting techniques, and graph theory. Prerequisite: MATH 109 with a "C" or better.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 300

Economics and Management of Computing Projects

The design process, engineering economics, project planning and ethics in engineering practice. A required course for all Computer Science majors, normally taken in the junior year, offered both semesters. Prerequisites: CPSC 102, 102a, MATH 215, PHYS112 and junior standing.

3 lecture hours, 3 semester hours.

COMPUTER SCIENCE 301

Programming Languages

This is a second computer language course organized around the concepts of data objects, data types, abstraction mechanisms, sequence and data control, storage management, syntax, and operating environments. Several widely used programming languages are analyzed to illustrate these concepts. Pre-requisite: Computer Science 201.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 329

Fundamentals of Algorithms

This course aims to develop an understanding of the process by which an algorithm is developed to solve a problem and how it is translated into a working computer program. Emphasis is placed on problem-solving approaches and efficient programming techniques. Topics covered are: data structures, stacks, lists, trees, search algorithms, introduction to parsing and sorting techniques; structures programming; interactive and recursive programming, analysis of algorithms and special purpose algorithms. Prerequisite: Computer Science 201, 227.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 349 A

Senior Design Project

Student will initiate and complete a project that meets career interests and objectives. One or more faculty will be available to each student in a consulting capacity. The department chair must approve an outline of the project in the semester prior to registration for this course.

1 semester hour

COMPUTER SCIENCE 349 B

Senior Design Project

Student will initiate and complete a project that meets career interests and objectives. One or more faculty will be available to each student in a consulting capacity. The department chair must approve an outline of the project in the semester prior to registration for this course.

3 semester hours

COMPUTER SCIENCE 350

Data Base Design

Survey of data structures used in data bases; relations; hierarchical and network data models; theoretical issues in data base processing; practical issues in data base design, programming, and implementation.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 360

Introduction to Robotics

Basic Robotics, including: position and velocity sensing, actuators, control theory, robot coordinate systems, robot kinematics, differential motions, path control, dynamics, and force control. Robot sensing, simulation of manipulators, automation, and robot programming languages are also investigated. Prerequisites: Computer Science 102, Electrical Engineering 360, Math 214 or 314 or permission of instructor.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 389

Software Engineering

Structural development methodology for large software systems. Planning requirements, design, test, and validation. Advanced topics in software development. Prerequisite: Computer Science 102 and senior status.

3 semester hours

COMPUTER SCIENCE 399

Independent Study in Computer Science

Independent study of advanced topics in Computer Science and submission of project report as required. Problem assignment to be arranged with and approved by the Department Chair.

Open only to qualified seniors

3 semester hours

CRIMINAL JUSTICE AND HUMAN SECURITY 118

Intro Criminal Justice

This course is intended to introduce you to the field of criminal justice and criminology. More specifically, we will explore how the American criminal justice system interacts with society and reacts to societal issues. In turn this will help us understand how society functions in response to the criminal justice system.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 205

Law and Economics

This course introduces basic principles of economics and how those principles impact the formulation and operation of legal rules. Special emphasis is placed on the U.S. Constitutional system and key cases involving legal issues.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 215

Intl Human Rights

This course discusses the recognition and protection of human rights in the international context, with a focus is on contemporary controversies. A genuine interest in global affairs and international issues, an open mind, and an inquisitive learning attitude are the best qualities for getting the most out of this class.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 218

Human Security

Human Security involves looking at world security issues from the perspective of individual people. This course introduces students to the concept of Human Security, its importance in meeting the basic needs of people and preventing state collapse, and its usefulness, in forging greater transnational accountability.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 233

Intro US Legal System

This course will offer a comprehensive overview of the U.S. legal system, including an overview of legal practice sources and techniques with emphasis on the major substantive areas of the law. Students will begin by examining issues in constitutional law, with an overview of how government functions and how laws are made. A legal writing segment of the course will allow students to use legal analysis while refining their writing skills. 3 semester credits

3 credits

Criminal Justice and Human Security

Criminal Justice and Human Security • Dental Hygiene

CRIMINAL JUSTICE AND HUMAN SECURITY 265

Intro to Corrections

A multidisciplinary study of corrections from the 1800's to the present. Focus on the function of corrections from the perspective of society and the offender.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 271

Law Enforcement & Society

This course focuses on the role of the police and law enforcement in American society. Key topics include the police profession, organization of law enforcement systems, the police role, police discretion, ethics, and police-community interaction. Law enforcement is examined in terms of political, social, cultural, legal, psychological, and organizational relevance in society. Prerequisite: CJHS 118 or SOC 118

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 299

Selected Topics

Prerequisite: Permission of Advisor and Dean
3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 312

Victimology

This course examines the role of the crime victim. Topics include the identification of victims, victim assistance programs, victim compensation and repayment, and the treatment of the victim by law enforcement and the courts. The course also considers the victim-related role of major social institutions, including the family, schools, religious organizations, the medical profession, and financial and political organizations. Prerequisite: CJHS 118 or SOC 118

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 315

Criminology

Criminology is the social scientific study of crime and criminal behavior. This class first examines the nature and extent of crime, including the categories of crime, the people who engage in criminal activity, and how crime is measured. It examines theoretical explanations of crime, and the role of the criminal justice system in controlling crime.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 343

Constitutional Law

This course examines the operation of the U.S. Constitution, as well as its origins, philosophical underpinnings, and current issues. Course work includes reading, discussing, and writing about constitutional issues.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 345

Comparative Criminal Law

This course examines the criminal law of the United States, with comparative reference to other legal systems of the world. Emphasis is placed on the application of law to facts, and specific knowledge required by law enforcement personnel. Prerequisite: CJHS 118 or SOC 118

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 350

Legal Advocacy

This course introduces legal reasoning and the legal method, and requires the student to conduct legal research, to produce written materials (such as a letter, a memorandum, a complaint, a motion, and an appeal), and to make oral arguments. Prerequisite: PSCI 233, Junior status or Instructor approval.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 371

Terrorism

This course introduces terrorism as a subject of sociological, legal, military, political, and strategic study. The course considers the objectives of the terrorist and terrorist organizations, and recent counter-terrorism strategies. The course also encourages students to think about long-term strategies to combat terrorism, both within a nation-state and across international borders.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 372

Transnational Crime

This course examines the scope, magnitude, and impact of transnational crime and discusses possible solutions, including widening surveillance and crime control measures, and the impact those solutions may have on civil liberties.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 395

Senior Thesis

Each senior student majoring in Criminal Justice and Human Security participates in a seminar requiring preparation of a research paper reflecting original thinking and research in a specific area of the field.

1-6 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 398

Internship

Professional, supervised, unpaid work in an organization related to career goals. Prerequisite:

site: Permission of advisor and Dean.

1-6 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 399

Independent Study

Subject to approval by the Department Chair, students may pursue advanced studies in the field of Criminal Justice and Human Security.

1-6 credits

Dental Hygiene

DENTAL HYGIENE 100

Introduction to Dental Hygiene

This course provides the opportunity to develop basic knowledge of the dental hygiene profession and the responsibility of licensure. Students will learn the role of the dental hygienist in total patient care.

1 semester hour

DENTAL HYGIENE 123

Oral Anatomy and Embryology

This course is an introduction to the study of the oral cavity and its associated structures. Included in the curriculum are lectures covering anatomy, embryology and histology of oral structures and the head and neck, emphasizing teeth and their supporting tissues. Knowledge of content is emphasized during clinical practice.

4 lecture hours; 4 semester hours

DENTAL HYGIENE 124

Dental Radiology

This course provides the fundamental scientific principles upon which clinical dental radiology is based. Content includes radiation history, radiation physics, radiographic anatomy, application to radiation safety for patient and operator, quality assurance, infection control practice, standard intra and extra oral radiographic techniques, quality film production and film evaluation.

2 lecture hours; two-hour laboratory periods; 3 semester hours

DENTAL HYGIENE 127

Pharmacology for the Dental Hygienist

General principles of pharmacology and use of pharmaceuticals; derivation and effect of drugs, especially those used in dentistry. Values and uses of chemical sterilizing agents, pre-and post-operative medications, anesthetics, antibiotics, and other pharmaceutical adjuncts to oral hygiene and dental care.

Dental Hygiene

3 lecture hours; 3 semester hours

DENTAL HYGIENE 129

Clinical Practice I

Introduction to the role and function of the Dental Hygienist in preventive dentistry; history and ethics of the Dental Hygiene profession; relationship of general and oral health to the disease process. Clinical hours are devoted to development of: infection control procedures, oral self care, basic clinical skills of patient assessment/data collection, basic instrumentation, patient education and dental emergencies.

3 lecture hours; 7 clinical hours; 4 semester hours

DENTAL HYGIENE 130

Clinical Practice II

This course is a continuation of Clinical Practice I and focuses on the role of the Dental Hygienist as a preventive oral health specialist. Didactic and clinical experience is devoted to patient assessment, treatment planning, patient management, fluoride therapy, emergency response protocols, and continuing development of clinical skills to facilitate ethical and total patient care. Prerequisite: Successful completion of DHYG123, DHYG124 and DHYG 129.
2 lecture hours; 8 clinical hours; 4 semester hours

DENTAL HYGIENE 140

Introduction to Periodontology

This course provides the basic principles of periodontology, which covers the recognition of clinical characteristics of the periodontium, classification of periodontal diseases, role of microorganisms and local factors in the etiology of periodontal diseases.
2 semester hours

DENTAL HYGIENE NUTRITION 204

Nutritional Biochemistry

This course will teach the basic principles of the science of human nutrition and nutritional biochemistry with an emphasis on the effects of nutrition on dental health. The focus will be on the roles of micro- and macronutrients and the importance of proper energy balance, digestion, absorption and metabolism of these nutrients. Correlations to dental hygiene are discussed at each class as it obtains to the weekly subject matter. Strategies of counseling patients to improve optimum oral health are taught throughout the course.
3 credits

DENTAL HYGIENE 227

Clinical Practice III

This course provides students the opportunity to expand on the basic dental hygiene skills learned in Clinical Practice I and II (DHYG 129 and 130) providing students with a practical and treatment oriented study of the oral manifestations of systemic diseases. Students will learn advanced instrumentation techniques and deliver comprehensive dental hygiene services in the Fones Dental Hygiene Health Center as well as in the community setting. The community setting will provide the students the opportunity to interact with a variety of patient populations. Evidenced-based decision making will be a common theme throughout the semester. The student will utilize the dental hygiene process of care by assessing clinical information and external research to implement and evaluate the dental hygiene treatment care plan; applying the ADHA Standards of Clinical Dental Hygiene Practice. Prerequisite: Successful completion of all first-year required courses.

2 lecture hours, 14-21 clinical hours per week;
5.5 semester hours

DENTAL HYGIENE 228

Clinical Practice IV

Continuation of advanced didactic and clinical practices of Dental Hygiene 227. This course will assist the student in refining competence in all clinical procedures, developing variety of experiences of oral health and disease, and assimilate knowledge in order to use responsible decision-making and critical analysis that assures the health of the patient. The student will be introduced to professional ethics and dental jurisprudence, professional organizations, professional goals, state dental practice acts, and issues facing the dental hygiene profession. The student will expand self-assessment skills and evaluation of scientific literature as the basis for lifetime learning. Prerequisite: Successful completion of DHYG 227, 230, 233, 241, 250.

2 lecture hours, 14-21 clinical hours per week;
5 semester hours

DENTAL HYGIENE 230

Local Anesthesia

DHYG 230 Local Anesthesia for the Fones Dental Hygiene Students. This course is designed to prepare the student dental hygienist to qualify to administer local anesthesia and receive a certificate in local anesthesia acceptable in the State of Connecticut. The student will be introduced to safe, effective administration of local anesthesia through lecture, labora-

tory and clinical settings. The comprehensive content areas will include rational for pain management, client management, medical emergencies and review of essential anatomy, physiology, and pharmacology of pain control agents. In addition, the student will perform efficient techniques of pain management through local anesthesia on clinical partners under the direct supervision of clinical faculty.
1.5 semester hours

DENTAL HYGIENE 232

Dental Public Health

Dental Public Health consists of didactic and field work components in community services. It is designed to enable Dental Hygiene students to identify Dental Hygiene career opportunities within the public health setting; describe the structure and function of public health; explain federal, state and local legislation, policies and procedures pertaining to public health; assess the dental needs and demands of the public including special populations; and plan and evaluate dental health care programming. Prerequisite: Successful completion of all first year required courses.

2 lecture hours; 72 hours of field experience per rotation; 4 semester hours

DENTAL HYGIENE 233

Oral and General Histo-Pathology

This course will provide the dental hygienist with an in-depth discussion of various types of oral diseases of the hard and soft tissues. Emphasis will be placed on the etiology, clinical picture, radiographic picture, histologic/microscopic findings, pathogenesis, treatment and prognosis for each condition discussed. Some systemic conditions with specific oral findings will also be covered. Prerequisite: Successful completion of all first year required courses.
3 semester hours

DENTAL HYGIENE 241

Periodontology

This course expands on the basic principles of periodontology introduced during the first year Dental Hygiene curriculum. Students receive a sound foundation in the history and management of periodontal diseases including the etiology and pathogenesis of periodontal diseases, the systemic disease connection with periodontal disease, the role of the immune system in the disease process and the various periodontal treatment modalities available with emphasis on the Dental Hygiene treatment plan. Prerequisite: Successful completion of DHYG 140.
2 semester hours

Dental Hygiene • Economics

DENTAL HYGIENE 250

Dental Materials

This course provides didactic and clinical information relating to dental materials utilized in the dental office. Content includes: terminology, basic principles, properties of materials, techniques and procedures, recognition of restorations and indications for their use. Students will also gain exposure to expanded auxiliary utilization, and the role of the Dental Hygienist in specialty practice. Prerequisite: Successful completion of all required first year Dental Hygiene courses.

2 lecture hours; 1 two-hour laboratory period;
3 semester hours

DENTAL HYGIENE 299

Dental Hygiene Independent Study

Selected independent projects conducted under the supervision of a Dental Hygiene faculty member.

1-6 semester hours

DENTAL HYGIENE 301

Dental Hygiene Practice Management

Through discussion of legal, regulatory, and ethical issues governing dental healthcare, the student will develop strategies to provide optimum client care and understand the Dental Hygienist role within an interdisciplinary healthcare team. Appreciation for the role of administrator / manager is obtained through lecture content and group activities focused on the development of communication, teamwork, personnel, business, and patient management skills. These skills are necessary to prepare for emerging practice models in dental healthcare.

3 Semester hours

DENTAL HYGIENE 302

Instructional Strategies for the Health Professional

Assessment, planning, implementation and evaluation of various instructional methodologies/strategies to facilitate presentations. Fundamentals of instructional theory with practical skill applications.

2 lecture hours; two-hour observation/presentation; 3 semester hours

DENTAL HYGIENE 303

Advanced Clinical Concepts

Advanced Clinical Concepts expands upon the basic knowledge and skills utilized in

the dental hygiene process of care. Students are introduced to advanced clinical concepts through evidence based practice methods. Oral medicine, advanced periodontology, pain management, and current research and technologies are emphasized.

3 semester hours

DENTAL HYGIENE 304

Dental Hygiene Internship

This course will provide the Dental Hygiene student with the opportunity to apply the knowledge and skills acquired throughout the dental hygiene curriculum in an internship experience. Under the guidance of the course instructor the dental hygiene student intern will select a field site in an alternative practice setting (not private practice). With the help of the site's primary mentor the intern will set goals and objectives that will allow them to become an integral member of the organization. The internship will consist of direct observation, participation and supervised teaching or fieldwork. Prerequisite: DHYG 302.

By arrangement; 3-6 semester hours

DENTAL HYGIENE 305

Dental Hygiene Research

Dental Hygiene Research is designed to introduce the Bachelor degree candidate to the basic concepts, strategies and fundamentals of the research process, with a focus on professional, scientific writing. Developing a unique body of research is critical to the advancement of the dental hygiene professional, and to the profession as they serve their patients and the public. The student will develop skills in information literacy by accessing and critically evaluating existing research related to oral and systemic health. The student will understand the process of creating a research proposal and research project which will enable them to become a part of this scientific process. The student will develop, write and refine a comprehensive, evidence-based literature review on an oral-health related topic suitable for presentation and publication.

4 semester hours

DENTAL HYGIENE 315

Statistical Reasoning

This course will provide a basic overview of statistical analysis and how certain tests can be performed to determine if there is a statistically significant relationship between variables. The student will receive an introduction to the use of statistical software for data analysis.

3 Semester hours

Economics

ECONOMICS 201

Principles of Economics I — Macro

Analysis of basic concepts; national income, employment, monetary and fiscal policy and economic growth.

3 semester hours

Offered: Spring/Fall Only

ECONOMICS 202

Principles of Economics II — Micro

An analysis of price, output, income distribution, market structures and international trade.

3 semester hours

Spring/Fall Only

ECONOMICS 301

Money & Banking

3 semester hours

Spring/Fall Only

ECONOMICS 311

Managerial Economics

The theoretical analysis of the behavior of the consumer and the firm. Problems of income distribution, welfare economics, and general equilibrium analysis. Prerequisites: ECON 201, ECON 202 and FIN 309; junior or senior status.

3 semester hours

ECONOMICS 376

Business Forecasting

Macroeconomic forecasting to improve asset allocation and investment performance over the business cycle. Examining and forecasting the behavior of stock, bond, commodity and currency prices. Forecasting tools to analyze the economy and forecast price movements in the financial markets. Prerequisites: ECON 201, ECON 202 and FIN 309; junior or senior status.

3 semester hours

Offered: Spring Only

Electrical Engineering

Undergraduate seniors may take graduate courses (400 level) with permission of their advisor.

ELECTRICAL ENGINEERING 200

Undergraduate Co-op/Internship in Electrical Engineering

Electrical Engineering

By arrangement. 1-3 semester hours

ELECTRICAL ENGINEERING 209

Engineering Analysis

This course provides a foundation in mathematical principles with applications in - engineering. It reviews functions, limit, derivatives, and integration and covers a broad spectrum of mathematical techniques important to the solution of engineering problems. Topics include ordinary and partial differential equations, power series, parametric and polar curves, vectors and matrices, linear algebra, the Laplace transform, the z transform, the Fourier series. Application of these topic to the solution of engineering problems is stressed. Prerequisite: MATH 112 (Co-requisite)

3 semester hours

ELECTRICAL ENGINEERING 210

Digital Design I

Basic digital design principles. Boolean algebra. Combinational logic design with gates, MSI, LSI. Sequential logic design; register, counters, memory and programmable logic. Prerequisite: CPSC 101.

3 semester hours

ELECTRICAL ENGINEERING 233

Network Analysis I

DC circuits, mesh, node voltages, superposition. Steady-state AC, real/imaginary power. Bode plots, Ideal op-amp circuit analysis. Pre-requisite: MATH 110 (Co-requisite), PHYS 207 (Co-requisite) and EE 235 (Co-requisite).

3 semester hours

ELECTRICAL ENGINEERING 234

Network Analysis II

Transient analysis of 1-pole and 2-pole circuits using differential equations and Laplace transforms. Fourier series derivation and application to electric circuits. Comparison of Fourier transform to Laplace transform. Pre-requisite: EE 233, MATH 112. Co-requisite: Electrical Engineering 209 and 236.

2 semester hours

ELECTRICAL ENGINEERING 235

Network Analysis I Lab

Use of resistor networks and DC voltage sources in various configurations; measurements of current flow and voltage difference. Introduction to RLC circuits in steady AC conditions. Familiarization with standard laboratory instruments. Pre-requisite: EE 233. Co-requisite: EE233.

1 three-hour laboratory, 1 semester hour

ELECTRICAL ENGINEERING 236

Network Analysis II Lab

Steady state and transient analysis of RLC circuits. Typical series and parallel resonance circuits are examined and their parameters experimentally determined; two pole network analysis; transformers; frequency response plots. Extensive use of the oscilloscope. Pre-requisite: EE 234, EE233. Co-requisite: EE 234.
1 three-hour laboratory, 1 semester hour

ELECTRICAL ENGINEERING 286

Intro to Microprocessor

Theory and application of microprocessors, and associated peripheral devices such as memory, ports, clocks, system design and debugging techniques, including specific design problems using existing devices. Programming aids, including assemblers and simulators. Programming problems including peripheral device service routines and arithmetic operations. Information structures for real-time data acquisition systems. Prerequisite: EE 210.

3 lecture hours; 1 three-hour laboratory; 3 semester hours

ELECTRICAL ENGINEERING 315

Fiber Optics

Communication via light waves over fiber optics cables. Analysis of light emission and light detection. Absorption loss. Optical devices, connectors, splices and Local Area Network (LANs). Pre-requisite: Physics 112.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 316

Fiber Optics Lab

Hands-on experience with fiber optic hardware: Fiber properties, sources, detectors, splices, connectors. Design and test fiber optic transmitter and receiver circuits for both analog and digital transmission. The experiments are related to optical fiber properties, losses, sources, detectors, splices, connectors, measuring the speed of the opto-electronic devices, design and test of fiber optic transmitter and receiver circuits for both analog and digital transmission, and design of a complete system. Pre-requisite: EE 210 and EE 234.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 317

Controls

At the end of this course, students will be able to: Derive the models for basic physical systems. Analyze the steady-state and transient behavior of basic feedback systems. Determine stability and performance of feedback systems using time-domain and frequency domain analysis methods. Design PID and lead-lag

controllers to achieve design specifications. Perform basic simulation to verify system stability and performance. Pre-requisite: EE 210, MATH 112, ELEG 234.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 333

Signal and Systems

Students learn to analyze theoretically and by computer both continuous and discrete signals and the application of each to real-world problems. Applications involve the definition of a system, defined either by a laplace or z-transform and the output of same to the application of any input signal. Pre-requisite: MATH 112.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 336

Digital Design II With Laboratory

Design of complex digital systems; top-down design and modularization. Implementation of controllers. Use of hardware design languages (VHDL) to implement systems. Rapid prototyping. Fault tolerant design. Prerequisite: Electrical Engineering 236. Laboratory includes implementation of digital systems using FPGAs.

3 lecture hours; 4 semester hours; 1 three hour laboratory

ELECTRICAL ENGINEERING 337

Analog Electronics Lab I

This is a hands-on analog circuit design lab. You will combine integrated circuits and discrete electronic components to design practical analog circuits for day-to day industry use. Pre-requisite: EE 236, EE 348. Co-requisite: EE 348.

3 semester hours

ELECTRICAL ENGINEERING 338

Analog Electronics Lab II

This course focuses on designing of BJTs and FET's amplifiers. Students focus on design parameters such as gain, frequency response and matching impedance. Students develop in-depth understanding of theory of electronic devices and circuits through practical experiments. Pre-requisite: Chemistry 103. Co-requisite: Electrical Engineering 337.
3 semester hours

ELECTRICAL ENGINEERING 341

Field Theory

The course covers fundamental concepts of RF circuit design. Students will learn circuit level design of high speed analog/RF circuits. Specific topics include impact of scaling and noise in high-speed communication circuits, low noise amplifiers, mixers, power amplifiers

Electrical Engineering • English

and frequency synthesizers.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 342

Modern Communications

ELEG 342 is a 3-credit first course on communications within the Electrical Engineering program. The objective of the course is to familiarize undergraduate students to the fundamentals of modern digital and analog communications systems. Pre-requisite: EE 333 (Co-requisite), MATH 323 (Co-requisite), MATH 112, ELEG 209.

3 semester hours

ELECTRICAL ENGINEERING 344

Power Electronics

Application of power diodes and power transistors in rectifier arrangements and voltage regulators. Properties and application in power converters, inverters and motor drives. Pre-requisite: EE 348, EE 337.

3 semester hours

ELECTRICAL ENGINEERING 346

Fundamentals of MEMS (Microelectromechanical Systems)

MEMS (Microelectromechanical Systems) refers to devices and system with extremely small size in the range of microns. It is one of the most important high technologies developed in 20th century. MEMS and nanotechnology are believed to trigger the next wave of technology revolution. This course covers the fundamentals of MEMS technology. The topics include MEMS materials, MEMS fabrication techniques, MEMS structure analysis, MEMS sensing and actuation techniques, MEMS applications (inertial MEMS, MOEMS, BioMEMS, RFMEMS), signal sensing techniques for MEMS, MEMS packaging and reliability, etc. Pre-requisite: Senior status (90+ credits)

3 semester hours

ELECTRICAL ENGINEERING 348

Electronics

Application of diodes, bipolar transistors (BJT) and field effect transistors (FET) to signal amplification and switching. Computer Simulation. Pre-requisite: EE 234, EE 235.

3 semester hours; 3 semester hours

ELECTRICAL ENGINEERING 349A

Senior Design Project

Student work for approximately 150 hours performing research work within the department of Electrical Engineering. Emphasis is on good technical writing and imaginative design of solutions to a given problem. Prerequisites:

Senior Status (90+ credits towards BSEE) plus EE 364, or EE333, or EE 348.

2 semester hours

ELECTRICAL ENGINEERING 349B

Senior Design Project

Continuation of Design Project. Prerequisites: EE 349A.

2 semester hours

ELECTRICAL ENGINEERING 350

Communications Lab

Hands-on experience with digital and analog communication equipment, AM, FM and digital modulation techniques. Design and test of optimal configuration. Measurement of performance parameters in the presence of thermal noise. Pre-requisite: ELEG 236, EE 210, EE 234, EE 342. Co-requisite: EE 342.

3 Semester hours

ELECTRICAL ENGINEERING 361

Controls Lab

Laboratory study of feedback control systems with experiments analyzing different types of plants, transducers and control techniques; emphasis on real-time computer control. Pre-requisite: ELEG 236, EE 317 (Co-requisite), MATH 112 (Co-requisite).

3 semester hours

ELECTRICAL ENGINEERING 364

Programmable Logic Control

This course will start with the basics of Boolean Algebra; it will cite the differences between PLC control and relay control and full automation of major machines and appliances; the differences in these controls will show how hard relay control is to implement and how flexible PLC control actually is; many different math functions will be analyzed and implemented in the theoretical construction of fully functioning PLC. Pre-requisite: EE 348, CPE 315 (Co-requisite).

3 semester hours

ELECTRICAL ENGINEERING 383

Analog Intg Ckt Desn

Do a complete analysis of the 741 op-amp, including bandwidth, gain analysis, slew rate, power efficiency and I/O impedances. Analyze ROM, Ram, TTL, ECL, CMOS and more modern logic structures including Fanout, noise margin, latching, contention, logic and delay response. Pre-requisite: Electrical Engineering 348.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 399

Independent Study in Electrical Engineering

Independent study of advanced topics in Electrical Engineering. Problem assignment to be arranged with and approved by the department.

3 semester hours

English

Courses designated ENGLISH fall under three categories: Composition and Communications, Creative Writing, and Language and Literature. Creative Writing courses are open to any undergraduate student and literature courses fulfill Humanities credit in General Education.

Composition

ENGLISH 100

Introduction to College Writing

Techniques of composition, including sentence structure, paragraph development, and organization of the full essay with regular written assignments. Additional emphasis on fundamentals to assist students with weak backgrounds. A grade of C- or better admits students to ENGL 101. Students who receive a grade of D+ or below must repeat ENGL 100. Students who have a grade of A or B at the end of the semester may take the final exam for ENGL 101. If they score an A or B on that examination and have the recommendation of their ENGL 100 instructor, they may waive ENGL 101.

Offered: Every Semester

3 semester hours

ENGLISH 100A

Basic Composition Intensive

This course includes a writing lab component to assist students with weak backgrounds in writing. Techniques of composition, including sentence structure, paragraph development, organization of the full essay, with regular written assignments. A grade of C- or better admits students to ENGL 101. Students who receive a grade of D+ or below must repeat ENGL 100. Students who have a grade of A or B at the end of the semester may take the final exam for ENGL 101. If they score an A or B on that examination and have the recommendation of their ENGL 100 instructor, they may waive ENGL 101.

3 semester hours

ENGLISH 100E

English

English Communication Skills

English Communication Skills is designed to help students with emerging English proficiency develop and improve the listening and speaking skills in English necessary to communicate successfully in diverse situations, especially academic ones. The successful students will be able to demonstrate proficiency in spoken English, with emphasis on pronunciation and fluency; express themselves orally in English about topics in their academic discipline in formal and informal presentations, participate in group discussions and other authentic academic environments. This course does not emphasize writing skills and may be taken concurrently with English 100 or English 100I.

3 semester hours

ENGLISH 100I

Developmental English

For those students, especially non-native speakers, who need academic preparation before studying in English. This course provides focused, individualized work on special problems in using English fundamentals, oral/aural problems, reading and oral comprehension, English patterning and structures, leading to the production of short written works. Students receiving a grade of D+ or below must take ENGL 100 before moving into ENGL 101.

Offered: Every Semester

3 semester hours

ENGLISH 101

Academic Writing

English 101 introduces students to the techniques for clear and effective college-level writing. The goal will be to improve writing ability and to sharpen reading and critical thinking skills. This course focuses on the best ways to approach different types of college writing assignments. Students will study and practice the fundamentals of academic discourse, including essay organization and development, analysis, research techniques, documentation, and critical evaluation of academic writing. Grammar and word mechanics will also be reviewed to ensure that students communicate successfully in various tasks. English 101 fulfills the General Education credit for academic writing.

Offered: Every Semester

3 semester hours

ENGLISH 120

Public Communications

Public Communications introduces students to the principles underlying effective communication and helps students develop strong

oral communication skills. Students will study the processes and nuances of everyday public address; learn strategies to speak effectively and comfortably to different audiences, and practice techniques to communicate effectively in public and professional settings and in both in-person and digital environments.

3 semester hours

ENGLISH 202

Professional Writing

Essay writing, with a stylistic approach and a concern for accuracy in presenting or explaining ideas in an orderly, logical manner. Emphasis on improved clarity and effectiveness, through careful revision in written reports and assigned papers, especially those pertaining to the student's major field. This course is required for Business majors and emphasizes professional writing. Prerequisite: English 101.

Offered: Every Semester

3 semester hours

ENGLISH 204

Technical Writing for Computer Engineers

A workshop course that covers the following topics: lab reports, engineering memos, technical business plans, scientific/engineering grant proposals, patent applications, technical papers, user manuals of product/software, and final engineering project reports. Prerequisite: English 101.

Offered: Every Semester

1 semester hour

Creative Writing

ENGLISH 201

Fiction Writing

Extensive writing in short fiction. Progression from simple narrative, basic character description, dialogue and scene writing to vignette, short-short and short story. Marketing advice. Specific emphasis varies with instructor. Designed for the undergraduate who writes well but needs practice, direction, motivation.

Offered: Every two years

3 semester hours

ENGLISH 205

Poetry Writing

For students with a demonstrated basic ability in the writing of poetry. Introduction to the techniques of poetry, covering such elements as meter, rhyme, image patterns, stanza forms, lyric, dramatic, narrative modes, blank verse, and free verse. Some history of poetic movements. Study of contemporary poetry. Work in

the course is mainly writing and discussing of student poems.

Offered: Every two years

3 semester hours

ENGLISH 217

Creative Nonfiction

This course will help students to write both personal and impersonal nonfiction as exciting and interesting as fiction, by taking research and turning it into story. Students learn the art of telling stories to communicate ideas and facts to other professionals and general audiences. Writing assignments include review, immersion pieces, profiles, research narratives, and interdisciplinary blending of modes.

Prerequisite: ENGL 101

3 semester hours

ENGLISH 218

Autobiographical Writing

This course focuses on the use of personal experience and history as the basis for literary pieces such as travel, memoir, and epistolary writing. Students learn how to process their experiences through writing.

Offered: Every two years

3 semester hours

ENGLISH 219

Dramatic Writing

An introduction to playwriting and screenwriting, where students explore the fundamentals of character, action, conflict, and structure through writing exercises. Students continuously revise their work, hear it read aloud, and critique the work of their peers. Through the work consists primarily of writing, students also analyze the dramatic structure of both new and classic plays. The class culminates in each student writing a one-act play.

Prerequisite: ENGL 101

3 semester hours

ENGLISH 227

Writing for Social Media

Social media play an increasingly important role in the way communities, businesses, and individuals share information. This course introduces students to the fundamentals of how to compose content for a variety of media platforms. Students will maintain and add content to a website of their own design, updating it with periodic blog entries, PowerPoint presentations, white papers and e-books, podcasts, videos, and other media. Students will study both the technical skills they will need to produce this media as well as strategies for writing effectively and professionally

English

in electronic formats.

Prerequisite: ENGL 101

3 semester hours

ENGLISH 308

Advanced Creative Writing

Seminar workshop: Considerable attention to the creative desires of individual students. Student may choose to write poetry, short stories, sections of novels, drama. Emphasis on completed manuscripts, potential publication, individual explorations of form and content. Prerequisite: English 201, 205, 217, 218, 219, or the permission of the instruction which is given only upon presentation of an acceptable piece of creative writing done by the student.

Offered: Every two years

3 semester hours

Literature

ENGLISH 102

Introduction to Literature

A writing intensive course that uses representative examples of poetry, drama, and fiction to develop one's ability to analyze and appreciate literature. Co-requisite: ENGL 101

3 semester hours

ENGLISH 110

Major Figures in Literature

This course is offered in three one-credit sections, each section dealing with representative works of a major writer, and lasting one-third of a semester. Students may register for one or more sections. Usually the writers are related by either period or genre, as in the case of Henrik Ibsen, George Bernard Shaw, and Anton Chekhov, or Jack Kerouac, Henry Miller, and Sylvia Plath. Co-requisite: ENGL 101

3 semester hours

ENGLISH 105A

Introduction to Drama

Introductory study of drama. Readings are drawn from a variety of genres and literary periods. Co-requisite: ENGL 101

3 semester hours

ENGLISH 105B

Introduction to Fiction

Introductory study of fiction. Readings include short stories and several novels. Co-requisite: ENGL 101

3 semester hours

ENGLISH 180

Science Fiction

Study of the science fiction and speculative

fiction genre, covering such aspects as the history of science fiction; treatment of character, plot, heroes, style, theme; impact on society; role of science and space flight; ecological and mystical concerns. Authors read and discussed range from Hawthorne and Poe, Wells and Verne to Asimov, Heinlein, Bradbury, Clark, and Vonnegut. Co-requisite: ENGL 101
3 semester hours

ENGLISH 197

Masterpieces of English Literature

An attempt to get some feeling for and pleasure from the development and continuity of English literature. Readings and discussions of selected major works by major authors such as Chaucer, Shakespeare, Milton, Swift, Blake, Wordsworth, Dickens, Tennyson, and Lawrence. Co-requisite: ENGL 101

3 semester hours

ENGLISH 207

American Literature I

A survey of the major literary movements and their cultural contexts from the writings of the first settlers to the establishment of a uniquely American literature in the mid-nineteenth century. Prerequisite: ENGL 101

3 semester hours

ENGLISH 208

American Literature II

A survey of the literature of transition from an era of traditional and idealized values to one of realist and relativist perceptions, covering the period from the Civil War to World War II. Prerequisite: ENGL 101

3 semester hours

ENGLISH 209

British Literature I

A survey of British literature from the beginnings to the eighteenth century. Prerequisite: ENGL 101

3 semester hours

ENGLISH 210

British Literature II

A survey of British literature from the eighteenth century through the twentieth century. Prerequisite: ENGL 101

3 semester hours

ENGLISH 212

Masterpieces of World Literature

An introduction to some of the core texts from the East and West, reflecting ancient, classical, and medieval traditions of great world cultures, ending with one or two masterpieces

from the Early Modern period. Selections are drawn from the Bhagavad Gita, Gilgamesh, the Bible, Homer, Greek tragedy and comedy, Plato, Virgil, Dante, Cervantes, and others. Prerequisite: ENGL 101
3 semester hours

ENGLISH 213

Contemporary Drama

Dramatic works by British and American authors as well as works in translation primarily since World War II. Emphasis will be upon how to read a play, the difference between technical appeal and meaning, and similar fundamentals for reading drama for maximum understanding. The work of playwrights such as Williams, Albee, Pinter, Behan, Ionesco, Handke, Beckett and Shepard will typically be included. Co-requisite: ENGL 101
3 semester hours

ENGLISH 215

Thematic Studies in Literature

Introductory studies of literature in relation to major areas of concern in contemporary life. Courses will vary from semester to semester. Topics included are Health and Medicine, Law and Justice, Murder, Madness, Espionage, and Fairytales. Co-requisite: ENGL 101
3 semester hours

ENGLISH 216

Introduction to Poetry

By reading, discussing, and writing about a variety of English and American poems, students will develop their ability to read, understand, and enjoy poetry. Prerequisite: ENGL 101
3 semester hours

ENGLISH 220

Literature of Travel and Adventure

This course focuses on fiction and non-fiction works of travel and adventure in literature from the ancient Greeks to today. The course explores the various styles, themes, and purposes of travel and adventure writing; how locations, encounters, and beliefs influence individual works; and how travel literature affects and shapes its audience.
Offered: Every two years

3 semester hours

ENGLISH 223

Modern African-American Literature

Study of the fiction, drama, poetry, and essays of such significant black writers as Richard Wright, James Baldwin, Ralph Ellison, Lorraine Hansberry, Arna Bontemps, Malcolm X, and Toni Morrison. Co-requisite: ENGL 101

English • eSports

3 semester hours

ENGLISH 228

Immigrant and Indigenous Stories

This course examines the literature of America's minority groups, with particular focus on writing from the twentieth and twenty-first centuries. The course inquires into the origin of cultural self-identification and addresses issues of race and ethnicity in America, drawing upon significant literature written by representatives of such groups as Native Americans, Jewish Americans, Asian Americans, African Americans, Hispanic Americans, and other diaspora groups.

Offered: Every two years

3 semester hours

ENGLISH 233

The Roots of Modern Culture

Topics and themes important to the understanding of the origin and development of modern Western society and culture. Subjects such as industrialism, the growth of the city, class conflict, the emergence of new values and expectations, the importance of war, and the role of minorities are explored in a variety of literary and historical texts. Prerequisite: ENGL 101

(Cross-listed as History 233)

3 semester hours

ENGLISH 252

Women in Literature

The course explores literary and gender studies, including stereotypes, myths and realities in the way women are viewed in literature. Authors include: D.H. Lawrence, Kate Chopin, Henrik Ibsen, Virginia Woolf, Edith Wharton, and Margaret Atwood. Co-requisite: ENGL 101

3 semester hours

ENGLISH 305

Shakespeare at the Movies

This class focuses on the structure, language, genre and dramatic form of five of Shakespeare's plays in the chronological order in which he wrote them for the stage. The course centers on close readings of the plays and critical engagement with the issues they raise, putting them in their historical context as well as our own. We will also look at the plays in relation to the social and political tensions of Shakespeare's time. Film performances are viewed to enhance the engagement with and understanding of the written plays.

Prerequisite: ENGL 101

3 semester hours

ENGLISH 322

Understanding English Grammar

This course is intended for anyone who is interested in understanding English, but particularly for those intending to teach English at the secondary level. It takes a structural approach to English grammar, focusing on ten descriptive sentence patterns and classifying words based on English usage. Prerequisite: ENGL 101

3 semester hours

ENGLISH 325

Contemporary Poetry

Lectures and discussion concerning such movements as Modernism, Imagism, and Feminism in 20th century poetry. Can involve examination of non-Western poetry. Topics vary from year to year as the English faculty may direct. Prerequisite: ENGL 101

3 semester hours

ENGLISH 330

Studies in 19th Century American Literature

A variable content course covering the close study of individual authors (Hawthorne, Melville, Poe, Twain, Emerson) and major literary movements of the century (Romanticism, Naturalism, Realism). Prerequisite: ENGL 101

3 semester hours

ENGLISH 332

Studies in 20th Century American Literature

A variable content course covering such major novelists and poets as Fitzgerald, Hemingway, Faulkner, Dos Passos, Wright, Updike, Morrison, Eliot, Frost, and Stevens, as well as contemporary fiction and poetry. Prerequisite: ENGL 101

3 semester hours

ENGLISH 357

Studies in the Novel

A variable content course covering major figures and movements in the development of the novel from the 18th Century to the present. The authors studied are primarily, but not exclusively, North American and British. Prerequisite: ENGL 101

3 semester hours

ENGLISH 395

Topics in Literature

This course is designed for students with a general understanding of the Humanities and a general understanding of literature. The class concentrates on one general topic and explores this topic through a variety of literary outlets. Recent topics have been Confession; Transcendentalism; Literature of Early American Republic; Literature and Psychology; the

Quest; Literature of Revolt. Prerequisite: ENGL 101

3 semester hours

ENGLISH 397

Thesis

The undergraduate English thesis course is an independent study designed for majors with Literature concentrations. Under the guidance of a faculty member, the student will develop a research plan leading to a thesis in his or her area of interest. Requires prior approval of the department head. Prerequisite: ENGL 101

3 semester hours

ENGLISH 398

Internship

Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and dean.

1-6 semester hours

ENGLISH 399

Independent Studies

For the student who wishes to specialize in advanced projects not covered by the regular course offerings. Individual or small group conferences with designated advisor. Prerequisite: Permission of dean.

1-6 semester hours

eSports

ESPT 220

Intro to eSports

This course introduces students to the fundamental concepts of today's eSports industry. Students will learn about industry best practices by examining eSport case studies, reading and videos. Students explore financial, legal & ethical, marketing, and operational issues surrounding the eSports industry. Finally, students explore career opportunities in eSports management.

3 semester hours

ESPT 305

Gaming Hardware & Software

This course is an overview of video game technology. Topics will cover the roles and tasks of different hardware components found in a video game console and the software packages that comprise the video game development process. Not to be taken by electrical engineering, computer engineering, computer science, or cybersecurity and networks majors.

3 semester hours

ESPT 315

Fashion Merchandising • Finance

eSports Business

This course provides an in-depth examination of the Business of eSports. Topics included but not limited to, the overall structure and governance of esports. Students will examine how esports leagues, teams and events are structured around the world as well as different levels of governance and policies that are used to oversee esports.

3 semester hours

ESPT 320

eSports Broadcasting

In this course, the student will learn the fundamentals of various components of esports media such as writing strategies for broadcast, active voice, internet streaming, shooting on location, anchoring, play-by-play, and production of the various forms of esports media. Additionally, the student will examine economic, ethical, gender, and race issues in esports media. This experiential course offers the student an opportunity to apply knowledge and skills to esports production activities on campus.

3 semester hours

ESPT 325

Contemporary Issues in eSports

This course examines the current issues confronting esports, including topics relating esports business and performance, among others. Students will be able to critically examine current issues facing the esports industry through readings, assignments, discussion and projects.

3 semester hours

CAD system used to create silhouettes, color, fabrics, and manipulate images that interface with PDM. A trip to the NYC Fashion Markets is required.

3 semester hours

Offered: Alternating semesters annually

FASHION MERCHANDISING 107

HOME FURNISHINGS

The importance of home furnishing in the marketplace has expanded as new stores dedicated to home goods have opened and department stores have enlarged their home good departments. This course presents a comprehensive coverage of the materials and products used in home furnishings in the global market, and gives our students an opportunity to focus on the merchandising and marketing of these products in retail stores today.

3 semester hours

Offered: Alternating year

FASHION MERCHANDISING 108

Product Knowledge—Fashion Accessories

In-depth studies of fashion accessories and non-woven consumer products designed to give students a realistic appreciation of quality choices in merchandise selection, in performance standards, and consumer care. Specifically, the course emphasizes raw materials: leather, plastic, rubber, fur, precious metals, precious and semi-precious stones and products: shoes, hand-bags, luggage, gloves, furs, fine jewelry, cosmetics, and fashion accessories. Course requires that students research and prepare portfolios of fashion accessories from historic and current fashion periods. Students design and create some accessory items for the current marketplace.

3 semester hours

Offered: Alternating semesters annually

FASHION MERCHANDISING 270

Fashion Show

A practical study of the techniques for Fashion Show production. The ultimate result is a fashion show presentation showing current styles from the New York and local fashion markets. Course includes planning, budgeting, organizing, writing commentaries, promoting, choosing fashions, staging and reviewing for the final show.

3 semester hour

Offered: Alternating semesters annually

FASHION MERCHANDISING OR RETAILING 299

Independent Study in Fashion Merchandising or Retailing Techniques.

Students select a facets of the fashion that they are interested in research in depth. Students present a ten to 15 page paper to supervising instructor and students Prerequisite: Permission of the Director and Advisor. Seniors only.

1-3 semester hours

Offered: Alternating semesters annually

FASHION MERCHANDISING 303

History of Costume

An introduction to the development of clothing and period dress.

Includes clothing designs and fabrications from Mesopotamia, Greek, Roman, Byzantine, the 12th, 13th, 14th, 15th and 16th Century, Renaissance, 17th Century Baroque, 18th, 19th Century through modern dress. A portfolio of historical and modern day adaptations of clothing is required. Prerequisite: FM101

3 semester hours

Offered: Alternating semesters annually

FASHION MERCHANDISING 398

Internship Experience

A full semester of part-time internship experience at a Fashion focused organization outside of the University. Students may select to intern with a retailer, a textile supplier, a fashion publication, or a showroom. Generally Corporate internships during the academic term are one or two days a week. Students need to complete a minimum of 120 hours of professional experience to receive credit for their experience. Students submit a fifteen page paper describing the organization in detail, the role their internship position contributed to the organization, a description of their specific job, and how their job was related to their field of study. Students describe the strengths and weaknesses of the organization as they perceive them and suggest areas of improvement. Juniors and Seniors only

1-3 semester hours

Offered: Every Semesters

FASHION MERCHANDISING 399

Independent Study (3 credits Seniors only)

Student selects a fashion related subject to study in depth. Then presents a paper to their faculty advisor and other students.

1-3 semester hours

Finance

FINANCE 209

Financial Management

Fundamental tools of analysis for the financial management of the firm. Sources and uses of

First Year Seminar • French • Geology • Gerontology

funds analysis for capital budgeting and working capital management. Prerequisites: ECON 201 and 202, CAIS 102; junior or senior status.
3 semester hours

FINANCE 309

Financial Management

Fundamental tools of analysis for the financial management of the firm. Sources and uses of funds analysis for capital budgeting and working capital management. Prerequisites: ECON 201 and 202, CAIS 102; junior or senior status.
3 semester hours

FINANCE 321

Investment Principles

Provides the student with the tools necessary for evaluating investments, including stocks, bonds, options and commodities. Additionally, it presents a systematic methodology for constructing efficient portfolios and evaluating portfolio performance. Prerequisite: FIN 309; junior or senior status.
3 semester hours

Offered: Spring/Fall only

FINANCE 345

Management of Financial Institutions

Financial management concepts and techniques for the managerial problems of depository institutions. Includes traditional bank management concerns and those resulting from the changing economic environment. Prerequisites: ECON 301; FIN 309; junior or senior status.
3 semester hours

Offered: Spring/Fall only

FINANCE 365

Advanced Financial Management

General survey of financial theories, from the viewpoint of both the financial officer or manager and creditor or stockholder. Prerequisites: FIN 309 and FIN 321; junior or senior status.
3 semester hours

Offered: Spring/Fall only

FINANCE 366

Cases in Finance

Application of financial theories to solve real world problems in Finance. Case studies involving financing and investment decisions, mergers and acquisitions, financial restructuring, dividend policies, and risk management; how these issues relate to the overall strategic objectives of the firm. Prerequisites: FIN 309; junior or senior status.
3 semester hours

FINANCE 368

Financial Derivatives & Risk Management

This course covers financial derivatives such as forward contracts, futures contracts, options and swaps. A derivative is a financial instrument that is derived from an underlying asset's value. The underlying asset can be commodities, equities, bonds, foreign exchange, or stock indices. These derivatives can not only be used for speculation and arbitrage, but more importantly, can also be used for risk management. By the end of this course students will have a good knowledge of how these derivatives work, how they are used, and how they are priced. Prerequisite: FIN 309.
3 semester hours

Offered: Spring only

FINANCE 380

Multinational Finance

The course concerns the international dimensions of corporate finance. The goal of the course is to equip students with the tools to deal with some of the major environmental and decision-making problems relating to corporate overseas finance and investments. Prerequisites: FIN 309; junior or senior status.
3 semester hours

Offered: Spring/Fall Only

First Year Seminar

FIRST YEAR SEMINAR 101

First Year Seminar

First Year Seminar orients students to the University of Bridgeport's academic culture and resources, guiding them in their transition to college life. The purpose of the course is to equip students with the knowledge and skills that will allow them to identify and meet their higher education goals. Learning outcomes for the course include communication skills, critical reasoning, information literacy and degree planning. Co-curricular programs include first-year-student-wide film screenings, guest speakers, discussions, and social events.
3 semester hours

French

FRENCH 101

Elementary French I

In this course students are introduced to the French language and culture. Basic skills in speaking, listening, reading, and writing are developed. Cultural readings and videos are

included in each lesson giving the students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. This is a course for students with little or no knowledge of French language.
3 semester hours

FRENCH 102

Elementary French II

This course builds on the foundations laid in French 101 and continues to introduce students to French language and culture. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course students are expected to reach a beginner level of French language proficiency and should be able to understand/ identify familiar vocabulary and conversation topics; engage in a conversation in a target language on a familiar topic; express opinions/ feelings about a familiar topic; read and comprehend short simple texts; write short simple sentences. Prerequisite: French 101.
3 semester hours

FRENCH 103

Intermediate French I

This course builds on the foundations laid in French 101 and French 102 and provides an opportunity to improve French language proficiency beyond the beginner level. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. Prerequisite: French 102.
3 semester hours

FRENCH 104

Intermediate French II

This course builds on the foundations laid in French 103. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course the students are expected to reach an intermediate level of French language proficiency and should be able to understand/ identify a range of vocabulary items and topics; engage in a conversation in a target language on a range of topics; express opinions/feelings about a range of topics; read and comprehend medium length texts; write medium complex-

Health Sciences

ity sentences. Prerequisite: French 103.
3 semester hours

Geology

GEOLOGY 205

Environmental Geology

The application of geology to problems arising out of the interaction of man and the planet. Topics include natural resources and conservation, geothermal energy; geological hazards such as earthquakes, volcano, floods, mass movement and subsidence; and geology and regional planning; field trips. Recommended: a course in laboratory science

2 lecture periods; 1 two-hour laboratory period; 3 semester hours

Gerontology

GERONTOLOGY 101

Introduction to Gerontology

An interdisciplinary overview of the implications of aging in American society. This course is designed to acquaint the student who is contemplating a career in gerontology, with the physical, psychological, social, economic and cultural dimensions of the total experience of growing older.

3 semester hours

GERONTOLOGY 276

MH Work w/Aged

This course provides an overview of the key ingredients necessary for a successful old age, with an emphasis on mental health needs of older persons. Common emotional problems facing older persons are considered. Both functional and organic brain disorders, the major mental disorders of late life are also discussed. The course will review a variety of treatment principles and skills supportive of positive mental health among the elderly. Prerequisite: Gerontology 101 or Mental Health 101.

3 semester hours

GERONTOLOGY 331

Process of Living and Dying

A seminar based on the premise that death and dying are closely related to life and living. This course explores the processes of death and dying, its effect on family members, cultural attitudes toward death, and various professional and paraprofessional roles available to deal with these issues. Prerequisite: Gerontol-

ogy 101.
3 semester hours

GERONTOLOGY 351

Social Gerontology

This course deals with societal aspects of aging and focuses upon socio-cultural factors that contribute to patterns of aging in the USA. Topics covered include the cultural meaning of aging; the socialization process of aging; the population dimension of aging; human ecology of the aged; social stratification among the aged; deviance and crime among the aged; social power of the aged; and social change and the aged. Prerequisites: Human Services 101 or Sociology 101.

3 semester hours

Health Sciences

HEALTH SCIENCES 101

Seminar in Healthcare Professions

This seminar course provides the health sciences student with an overview of a variety of healthcare professions and professionals. Daily activities and responsibilities, scope of practice, training, credentialing and philosophy of practice are explored for various health professionals (i.e., medical, osteopathic, naturopathic, chiropractic, dental and veterinary physicians, acupuncture, physician assistant, nurse practitioner, physical therapy, medical technologist, dental hygiene, health education, etc.)

Offered: Spring/Fall only

3 semester hours

HEALTH SCIENCES 102

Current Topics in Health Sciences

This required health science seminar course is designed to engage students in open discussions and debate of current topics impacting the health professions

Offered: Spring/Fall only

1 semester hour

HEALTH SCIENCES 201

Medical Terminology

This course introduces concepts and terms that are used within the health sciences and related fields.

Offered: Spring/Fall only

1 semester hour

HEALTH SCIENCE 210

Global Public Health

This course provides an overview of global public health policy with the primary focus to engage and inspire students about the opportunities and challenges of global health. This course is divided into four sections: 1. Principles, measurement, goals, and development of global health. 2. Cross-cutting themes in global health 3. The burden and distribution of disease and mortality 4. Global health governance and cooperation.

3 semester hours

HEALTH SCIENCE 230

Fundamentals of Nutrition

The fundamentals of normal and therapeutic nutrition are presented. Attention is focused on the promotion of health, prevention of illness and the restoration of health following illness for injury. This course includes a self analysis of the participant's diet.

Offered: Spring/Fall only

3 semester hours

HEALTH SCIENCE 240

Theory and Practice of Community Health Education

An introductory course that will provide students with the historical, philosophical and theoretical principles that govern the development of health education. Health promotion, the role of the health educator in clinical, community and school systems will be emphasized. Ethical issues, careers, organizations and future trends in the profession will also be examined.

Offered: Spring/Fall only

3 semester hours

HEALTH SCIENCES 250

Intro to Community Health Education

This is an introductory course on public health principles and the current delivery systems in the US. It introduces the major areas of public health, epidemiology, health care management, environmental and social behavioral health, health informatics. Current problems and alternative solutions will also be examined.

Offered: Spring/Fall only

3 semester hours

HEALTH SCIENCES 255

Community Health Planning and Evaluation

Students will be provided with an overall process of planning and evaluating community health education programs as they relate to defined populations in a variety of setting. Emphasis is placed on impact assessment, program design, and efficiency measurement.

Health Sciences

Offered: Spring/Fall only

3 semester hours

HEALTH SCIENCES 260

Intro to Exercise Science

This course presents an overview of the field of Exercise Science, including its development, professional activities and sub-disciplines.

Offered: Spring/Fall only

3 semester hours

HEALTH SCIENCES 270

Nutrition and Disease

This course focuses on nutrient and non-nutrient driven pathophysiological mechanisms that serve as the basis for disease. Prerequisite: Biology 102.

3 semester hours

HEALTH SCIENCES 280

Community Health Promotion

This course is designed to provide students with an overall understanding of principles and theories of health promotion as it relates to defined populations in a variety of settings.

Offered: Spring only

3 semester hours

HEALTH SCIENCES 299

Independent Study

1-6 semester hours

HEALTH SCIENCES 301

Biomechanics

This course provides an introduction to concepts of mechanics as they apply to human movement, particularly those pertaining to occupational work, exercise, sport, and general physical activity. The student will gain an understanding of mechanical and anatomical principles governing human motion and develop the ability to link the structure of the human body with its function. The perspectives of rigid body and deformational mechanics applied to biological tissues including bone, muscle, and connective tissue will be explored.

4 semester hours

HEALTH SCIENCES 320

Food Sanitation

The course introduces concepts related to the production, storage, preparation of food for human consumption. Attention is given to disease processes and their relationship to food preparation and consumption. Topics covered also include the commercial, social, and legal environments of food production and recall of contaminated food.

Offered: Spring only

3 semester hours

HEALTH SCIENCES 321

Exercise Science Anatomy & Physiology

This course focuses on anatomy and physiology from the perspective of an exercise scientist. Nervous, skeletal and muscular systems are studied as primary functional systems in the context of exercise and performance. Cardiovascular, respiratory and urinary systems are studied as primary support systems in the context of exercise and performance. Other systems are studied as secondary support systems. This course is intended to replace general anatomy and physiology for students on the Exercise and Fitness track. A one credit laboratory component is also included.

Offered: Spring only

4 semester hours

HEALTH SCIENCES 323

Food Service Management

The basic principles of microbiology, sanitation, safety, equipment selection, and facility layout for a food service operation are explored, including environmental control and the prevention of food-borne illnesses, cleaning materials and procedures, general safety regulations, food processing methods, first aid, and fire prevention. Prerequisites: Health Sciences 230 or Nutrition 205.

Offered: Fall only

3 semester hours

HEALTH SCIENCES 325

Exercise Physiology

This course examines how muscles make energy under exercise stress and how fitness behaviors and strategies affect performance, health and wellness. Emphasis is placed upon the muscular performance at the cellular/molecular level, as well as cardiovascular, respiratory, and other physiological processes that occur as a result of exercise and training. A one credit laboratory component is also included. Pre-requisites: Health Sciences 321 or Biology 113 and Chemistry 113, Chemistry 114, or Mathematics 106.

Offered: Fall only

4 semester hours

HEALTH SCIENCES 326

Health Policy and Management

The influence of policy and management of community health education will be examined. Societal and professional influences emerging threats on health and health policy will be discussed.

Offered: Fall only

3 semester hours

HEALTH SCIENCES 327

Grant Proposal Writing

This course provides the student with an overview of the grant writing process as it relates to health-related programs, research, and clinical practice. Emphasis will be placed on skills needed to become an effective grant writer and how to manage budget allocations, and the role of collaboration with stakeholders and other grant-seeking agencies.

3 semester hours

HEALTH SCIENCES 330

Health Care Administration

This course is designed to familiarize the student with the administrative concepts necessary to effectively administer health facilities and departments. Emphasis is placed on leadership, decision making and problem solving skills. Prerequisite: Health Sciences 250.

Offered: Spring only

3 semester hour

HEALTH SCIENCES 331

Kinesiology

Functional human anatomy focusing on skeletal muscle origin, insertion, and action are the focus of this course. In addition, the student will develop an understanding and appreciation of fundamental principles that relate to human movement. The student will develop the ability to functionally analyze typical movements in principles derived from musculoskeletal anatomy and physiology.

3 semester hours

HEALTH SCIENCE 335

Health Issues for Special Needs Populations

This course introduces students to special needs populations, including those who are recovering from recent illness or accidents. Attention is given to resources (medical, social, and legal) in the support of these populations.

3 semester hours

HEALTH SCIENCES 341

Strength & Conditioning

This course examines the advanced methods and techniques associated with the design of strength and conditioning programs to enhance human performance in sport and fitness, as well as their direct application to athletic competition and performance. Students will study information on the organization and administration of facilities, testing and evaluation, exercise techniques, training adaptations, and

Health Sciences • History

program design for common high school, collegiate, and professional sports. The course is designed to enhance the students' current level of knowledge in preparation for the National Strength and Conditioning Association (NSCA) Certified Strength and Conditioning Specialist (CSCS) certification. Prerequisites: BIOL 113, BIOL 114, Health Sciences 321.

3 semester hours

HEALTH SCIENCE 345

Comparative Diet Strategies

This course explores and compares various dietary strategies, including low-fat, high-carbohydrate, high-protein, macronutrient-balanced, macrobiotic, high-fiber, vegetarian, vegan, Paleolithic, and Mediterranean. The pros and cons of these various approaches are discussed, along with the evidence-base that exists, or does not exist, to support their use. Prerequisite: Health Sciences 230.

Offered: Spring only

3 semester hours

HEALTH SCIENCES 350

Community Nutrition

This course will provide students with the knowledge, skills, tools and evidence-based approaches needed by community nutritionists to promote health and prevent diseases. Prerequisites: Health Sciences 230 or Nutrition 205.

Offered: Spring only

3 semester hour

HEALTH SCIENCES 351

Fitness and Wellness Program Development

The course examines features of fitness and wellness program design and development. Disease prevention as a feature of fitness and wellness is studied in detail, with attention to social systems and infrastructure. Prerequisites: Health Sciences 321 or Biology 113 and Biology 114.

Offered: Spring/Fall only

3 semester hours

HEALTH SCIENCES 360

Vitamins and Minerals

Basic and clinical aspects of macronutrients will be discussed with emphasis on vitamin and mineral metabolism at the cellular and tissue level. Lectures will include specific functions, requirements, sources, and effects of deficiencies and excesses of vitamins and minerals. Prerequisite: Health Sciences 230.

Offered: Fall only

3 semester hours

HEALTH SCIENCES 361

Fitness Assessment

This course presents practical and theoretical knowledge about the various modes and protocols used in graded exercise testing, basic electrocardiography, and exercise prescription based on testing results. Practical application provides opportunities for students to gain experience in performing various physiological testing procedures as well as various methods of fitness testing. The course focuses on developing expertise in the preparation of clients for fitness testing, utilization of various modes of exercise testing, and test interpretation. The course is designed to enhance the students' current level of knowledge in preparation for the American College of Sports Medicine (ACSM) certified personal trainer exam. Prerequisites: BIOL 113, BIOL 114, HSCI 321.

3 semester hours

HEALTH SCIENCE 365

Epidemiology for Health Science Professionals

The course introduces the study of disease process, with special attention to transmission, containment, and treatment. Topics covered include urban environments, travel, socio-economic conditions affecting the spread of disease, and the like.

Offered: Spring/Fall only

3 semester hours

HEALTH SCIENCES 370

Clinical Herbotherapy & Botany

This course presents a study of the use of herbs in nutritional practice. Lectures will include the plant sources, mechanism of action, pharmacological/toxicological properties, and clinical applications of individual medicinal herbs commonly used for the promotion of health. Prerequisites: Health Sciences 230 or Nutrition 205.

Offered: Fall only

3 semester hours

HEALTH SCIENCES 371

Exercise Nutrition

The course examines aspects of sports nutrition detailing proper dietary and nutritional supplement protocols for enhancing endurance and performance during exercise and sport. Prerequisites: Health Sciences 325, Biology 113, Biology 114, Chemistry 113, Chemistry 114.

Offered: Fall only

3 semester hours

HEALTH SCIENCES 372

Special Topics in Nutrition, Foods and Health

This seminar-based course focuses on contemporary topics that pertain to nutrition, foods and health. Prerequisites: Chemistry 103 and Chemistry 104.

3 semester hours

HEALTH SCIENCES 373

Nutrition Assessment and Communication

This course focuses on nutrition assessment, evaluation, and communication techniques. Educational methods, dietary strategies, and nutritional counseling will be covered. Prerequisites: Psychology 103 and Health Sciences 230.

Offered: Spring only

4 semester hours

HEALTH SCIENCES 374

Food Science

This course focuses on the chemical basis for human sensory effects exerted by food and its preparation. Prerequisites: Chemistry 103 and Chemistry 104.

4 semester hours

HEALTH SCIENCES 380

Internship in Nutrition

A senior-year supervised field experience, conducted in a University approved setting, which is designed to provide the student with career related experience in the field of health and nutrition science. Prerequisite: completion of 80 credits.

Offered: Spring/Fall only

3 semester hours

HEALTH SCIENCES 381

Internship in Exercise & Fitness

A structured off-campus learning experience designed to provide senior students with a practical professional experience in Fitness and Exercise Science. Prerequisites: Health Sciences 240, 250, 260, 321 or 325.

Offered: Spring/Fall only

3 semester hours

HEALTH SCIENCE 385

Community Health Education Internship

Professional field experience will provide students an opportunity to apply previously acquired knowledge and skills in the assessment, planning, implementation, and evaluation phases of community health education. Prerequisites: Health Sciences 240, 250, 255, 260, 280.

Offered: Spring/Fall only

3 semester hours

HEALTH SCIENCE 386

Health Sciences Research

This course provides an introduction to the

History

fundamentals of research study design and methodology in the health sciences. Emphasis will be placed on qualitative and quantitative research, mixed-method research, and action research. Students will develop a research proposal in their area of interest.

3 semester hours

HEALTH SCIENCES 387

Health Sciences Information Literacy

This course introduces topics in information literacy, including information analysis and evaluation, the most important databases in health care and health sciences fields, and the like. Prerequisites: Biology 113, Biology 114, Chemistry 113, Chemistry 114.

3 semester hours

HEALTH SCIENCES 401

Health Sciences Information Literacy

This course introduces topics in information literacy, including information analysis and evaluation, the most important databases in health care and health sciences fields, and the like. Prerequisites: Biology 113, Biology 114, Chemistry 113, Chemistry 114, Health Sciences 321, Mathematics 203, Mathematics 203B.

3 semester hours

History

HISTORY 100

Major Figures in World History

This course is offered in three one-semester hour sections, each section dealing with one person of historical significance, and lasting 12 class periods. Students may register for one or more sections. Usually the three persons are related chronologically or thematically, as in the case of Hitler, Mussolini and Stalin, or Washington, Jefferson and Adams, or Florence Nightingale, Emmeline Pankhurst, and Emma Goldman.

Offered: Every two years

1 semester hour

HISTORY 101

World Civilization I to the 17th Century

The first semester of a historical survey of world cultures. The development of social, political, economic, and religious institutions and the major trends of philosophy, science, literature, and art.

Offered: Every other semester

3 semester hours

HISTORY 102

World Civilization II — 17th Century to the

Present

The second semester of a historical survey of major world cultures. Because of the nature of the period studied, additional emphasis on political, economic and social developments and on the role of science and technology.

Offered: Every other semester

3 semester hours

HISTORY 207

American History to 1877

European background to discovery and exploration. The English colonies; struggle for North America; the Revolution; constitutional development; growth of democracy; westward expansion; sectionalism; Civil War and Reconstruction. Major political, social, economic, and cultural trends in American society through Reconstruction.

Offered: Every other semester

3 semester hours

HISTORY 208

American History Since 1877

Gilded Age; industrial development; big business; expansion; imperialism; the U.S. as a world power; wars and foreign affairs; constitutional trends; political developments, economic and social trends and problems; cultural trends.

Offered: Every other semester

3 semester hours

HISTORY 222

The Ancient Greeks

From pre-Mycenaean times to the Hellenistic period, ending in 146 B.C. Emphasis on institutions, everyday life, ideas, and culture.

Offered: Every two years

3 semester hours

HISTORY 223

Ancient Rome

From earliest Roman society to the time of Constantine. Emphasis on institutions of the Roman Republic and Empire and their impact on Western Civilization.

Offered: Every two years

3 semester hours

HISTORY 228

Foundation of Modern England

Examination of social, economic, political and cultural resources and events from the English Renaissance under Henry VIII (1509) to the Colonial wars under George III (1783). Special focus on the Reformation, Civil War, Cromwell and the Glorious Revolution (1688); early de-

velopment of Empire; life-styles and culture or rural and early industrial society.

3 semester hours

HISTORY 229

Modern England

Study of factors contributing to the world power status - such as industrialization, colonial expansion, parliamentary democracy, foreign policy and armaments. Examination of impact of two world wars on national decline; popular culture in 19th and 20th centuries; the Welfare State; status of the Monarchy, the Irish enigma; European affiliation and its possibilities.

3 semester hours

HISTORY 230

The Civil Rights Movement

3 semester hours

HISTORY 232

History of Science

This course provides a global perspective on the growth of human knowledge by tracing the development of science and technology from the beginning of civilization to the present day.

3 semester hours

HISTORY 233

Roots of Modern Culture

Topics and themes important to the understanding of the origin and development of modern Western society and culture. Subjects such as industrialism, the growth of the city, class conflict, the emergence of new values and expectations, the importance of war, and the role of minorities are explored in a variety of literary and historical texts. (Cross-listed as English 233)

Offered: Every two years

3 semester hours

HISTORY 240

Latin American History

Introductory survey of the people, culture, geography, and history of Latin America. Periods include the Pre-columbian civilizations, European empires and colonial expansion, wars of independence and the national period, with focus on political economy, revolution, social reform, international relations, and the regional influence of science and technology.

3 semester hours

HISTORY 299

Independent Study in History

Designed for the student who wishes to de-

History • Human Services

velop a survey project not covered by the listed course offerings. Individual or group conferences with designated faculty advisor. Prerequisite: Permission of School Director.

*Offered: Every semester
1-6 semester hours*

HISTORY 304

Civil War and Reconstruction

Causes of the war; sectionalism, slavery, the territories, economic, social and intellectual factors, secession and war; major military campaigns, constitutional developments, presidential and congressional reconstruction, and the disputed election of 1876.

*Offered: Every two years
3 semester hours*

HISTORY 305

Connecticut History

The history and geography of Connecticut and study of the political and social development of Connecticut towns, lands and political institutions.

3 semester hours

HISTORY 316

Early African-American History

A study of the slavery experience from 1619 to 1877 focusing on the political, social, and economic aspects of the system, and the varieties of resistance to the system. Prerequisite: English 101.

*Offered: Every two years
3 semester hours*

HISTORY 317

Twentieth Century African-American History

Emphasis is placed on the struggle of African Americans to attain full rights of citizenship. Examination of African-American leadership, its ideas, and the impact of its ideas upon various African-American movements, such as integration, emigration, separatism, civil rights, and black power. Prerequisite: English 101; minimum grade C.

*Offered: Every two years
3 semester hours*

HISTORY 335

Topics in European/Non-West History

This course traces the history of the United States from the onset of the First World War through the ending of the Second World War. It gives a global perspective of the world wars, examining the rise of nationalism, the Great Depression and its aftermath, and the rise of fascism and communism. It will take a war-and-society approach to the conflicts which devastated Europe and changed America's

relation to the globe.

3 semester hours

HISTORY 336

Portrait of an Age

Comprehensive study of life and manners of a particular historical period, with emphasis on original sources such as diaries, memoirs, official records, literature, art and music. Periods could include the ante-bellum South, the Gilded Age, Victorian Society in England or the United States, France in the time of Louis XIV, and so on. May be repeated for credit if topics vary. Prerequisite: English 101.

*Offered: Every two years
3 semester hours*

HISTORY 361

Modern Africa

This course takes up where History 360 leaves off. It addresses the following: 19th century colonialism in Africa, African resistance to European colonization, African independence movements, decolonization in the mid 20th century and the subsequent establishment of independent African states. Prerequisite: English 101.

*Offered: Every two years
3 semester hours*

HISTORY 398

Internship

Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.

3 semester hours

HISTORY 399

Independent Study in History

For the student who desires to specialize in advanced projects not covered by the regular course offerings. Individual or group conferences with designated faculty advisor. Prerequisite: Permission of School Director.

1-6 semester hours

Human Services

HUMANS SERVICES 101

Introduction to Gerontology

An interdisciplinary overview of the implications of aging in American society. This course is designed to acquaint the student who is contemplating a career in gerontology, with the physical, psychological, social, economic and cultural dimensions of the total experience of growing older.

3 semester hours

HUMAN SERVICES 105

Strategies for Effective Parenting

Students will acquire relevant child-rearing information and constructive parenting techniques. Several therapy models useful for understanding child development will be explored. Emphasis will be on exploring personal parenting influences and preparing students to parent positively.

3 semester hours

HUMAN SERVICES 110

Alcohol and Other Drugs in Society

This course explores alcohol and other drug use and abuse in society. Included in the course will be a historic review, the role of culture in use of drugs, the effect on society, the family and the individual, and an overview of the etiology, assessment and treatment of dependence.

3 semester hours

HUMAN SERVICES 150

Career Management

This course prepares students to manage their own careers early in their college experience for their eventual college to work transition. Through self-exploration, students learn more about themselves in relationship to the world of work and about creating college experiences that will make them more marketable in a global community.

1-3 semester hours

HUMAN SERVICES 201

Introduction to Counseling

This course focuses on skills, theories and techniques of the helping profession. The importance of helpers knowing themselves is crucial in the helping field. An integrated, experiential component designed for self-exploration and increased understanding of self is explored through family of origin work.

3 semester hours

HUMAN SERVICES 203

Introduction to Human Services

This course briefly explores the historical beginnings of the human service field and focuses on the present day service delivery models, the needs of clients and the training of human service professionals. An integrated approach including community site visits and case studies will assist students in gaining a firm understanding of this field.

3 semester hours

HUMAN SERVICES 205

Counseling Methods for Specialized Populations

Human Services

Students study through biographies specialized populations (i.e. those with mental and physical disabilities, drug and alcohol users, and emotionally, physically, and sexually abused) while becoming familiar with the various counseling approaches useful in effecting changes in these individuals.

3 semester hours

HUMAN SERVICES 225

Sign Language I

This course introduces students to the Art of Sign Language. Using American Sign Language they will be able to communicate on a basic level. Students will learn subtle aspects of language, such as facial expression, gestures (non-verbal communication), use of classifiers, and directional verbs. Students will learn the manual alphabet and be able to use it in the everyday interactions if needed.

3 semester hours

HUMAN SERVICES 230

Sign Language II

Sign Language II will reinforce the knowledge students have gained in Sign Language I: Using American Sign Language, students will begin to speak more fluently. Their skills will be perfected as they continue to learn subtle aspects of the language, such as facial expressions, gestures, from verbal communications, use of classifiers, and directional verbs. Students will perfect the manual alphabet and be able to use it in their everyday interactions when needed.

3 semester hours

HUMAN SERVICES 277

Practicum in Human Services

Students enrolled in the practicum receive individually arranged on-site placement in human service agencies. This arrangement is intended to provide students the opportunity to experientially investigate the specific area of interest that they have developed and/or to allow for the individualization necessary to meet the student's specific skill area needs. Students are expected to be concurrently in a class where they have an opportunity to discuss and process their on-site learning experiences.

1-6 semester hours (Every Semester)

HUMAN SERVICES 299

Special Topics

Investigation of current topics in the human services field.

1-6 semester hours

HUMAN SERVICES 301

Crisis Management

Students are exposed to models of crisis intervention that facilitate crisis resolution. Crisis theory, critical factors, developmental and situational crisis as well as intervention with unique populations and special issues are discussed. Course includes competency-based skill-building exercises. Prerequisites: HUSV 201 or HUSV 203 and HUSV 205. Minimum grade C.

3 semester hours

HUMAN SERVICES 302

Multicultural Perspectives in Human Services

This course provides a background in cultural diversity and competence specifically related to human services settings. This includes culturally centered communication skills related to clients. It also includes sensitivity and awareness around the design and implementation of human services programs. The course will help students effectively navigate ethnic, race, gender and age related issues as they relate to client service and program development. Prerequisites: HUSV 110 and HUSV 201 or HUSV 203. Minimum grade C.

3 semester hours

HUMAN SERVICES 305

Strategies and Techniques of Group Interaction

Students become aware of strategies and techniques of group interaction as they relate to behavioral outcomes. Different theoretical models will be offered and opportunities will be given to demonstrate the effectiveness of specific approaches to unique populations. Prerequisites: HUSV 110, HUSV 201 or HUSV 203 and HUSV 205 and HUSV 301.

3 semester hours

HUMAN SERVICES 312

Internship in Human Services

The internship differs from the practicum in that it emphasizes the organizational aspects of the placement, i.e. management, planning, research, etc.

1-6 semester hours

HUMAN SERVICES 315

Substance Abuse and Chemical Dependency

This course concentrates on assessment and diagnosis of substance abuse and chemical dependency as well as the different treatment modalities and methods used to help the addicted. Included in the course will be a look at the different addictions and compulsive behavior patterns including alcohol and other drug dependency, gambling, and eating dis-

orders. Prerequisites: HUSV 110, HUSV 201 or HUSV 203. Minimum grade C.

3 semester hours

HUMAN SERVICES 316

Strategies for Effective Families

This course explores functional and dysfunctional families. Students will gain an understanding of the family system and methods of intervention and treatment for the family as well as individuals within the family.

3 semester hours

HUMAN SERVICES 320

Applied Ethics for Human Services Professionals

A general introduction to basic ethical principles as applied to human services and direct support workers across a spectrum of programs. Programs include work in hospital, community, day care, school, recreational, rehabilitation and mental health settings. Students apply ethical principles throughout the course to topics and case studies from the class text and from actual examples from their own practicum placements. Students engage in reading, discussion, writing, and individual presentations during the course. Students recognize basic ethical terminology, apply ethical models to relevant cases, and draft their own ethical decision-making model as a product of this course. Prerequisites: HUSV 201 or HUSV 203 and HUSV 205. Minimum grade C.

3 semester hours

HUMAN SERVICES 331

Process of Living and Dying

A seminar based on the premise that death and dying are closely related to life and living. This course explores the processes of death and dying, its effect on family members, cultural attitudes toward death, and various professional and paraprofessional roles available to deal with these issues.

3 semester hours

HUMAN SERVICES 333

Social Policy and Administration

This course introduces the student to the various components of social policy; formation, implementation, administration, and evaluation. Theoretical issues as well as historical factors in policy are presented. Practical problems in administration of non-profit agencies are presented and analyzed. Prerequisites: HUSV 201 or HUSV 203; and HUSV 205 and HUSV 301 and junior/senior status. Minimum

Humanities • Integrated Studies • International Business •

International Political Economy and Diplomacy

grade C.

3 semester hours

HUMAN SERVICES 350

Seminar in Human Services

This seminar course is designed as a culminating experience incorporating primary readings and case studies. Students will have an opportunity to explore and discern current issues and personal interests in the human service field. Prerequisites: HUSV 201 or HUSV 203; and HUSV 205 and HUSV 301 and senior status. Minimum grade C.

3 semester hours

HUMAN SERVICES 351

Social Gerontology

This course deals with societal aspects of aging and focuses upon socio-cultural factors that contribute to patterns of aging in the USA. Topics covered include the cultural meaning of aging; the socialization process of aging; the population dimension of aging; human ecology of the aged; social stratification among the aged; deviance and crime among the aged; social power of the aged; and social change and the aged. Prerequisites: HUSV 101, HUSV 201 or HUSV 203. Minimum grade C.

3 semester hours

HUMAN SERVICES 389

Seminar in Critical Issues in Contemporary Gerontology

This course is interdisciplinary in its orientation and its purpose is to familiarize students with the rich diversity of professional literature contributing to the field of gerontology. In addition, it is designed to demonstrate the linkages between theoretical issues and practical concerns in the field of aging. The course will draw upon the knowledge and experience of a variety of scientists and practitioners who will lead discussions on selected issues to be identified by the seminar's participants. Prerequisites: GERO 101 and 12 additional hours of gerontology course work.

3 semester hours; upon student demand

Humanities

HUMANITIES C201

Humanities I

Prerequisite: English 101; minimum grade C.

3 semester hours

HUMANITIES C201A

The American Dreamer

An interdisciplinary course which employs his-

tory, literature and philosophy to examine and explain the cultures and values of a civilization over time and place. Works studied include primary historical and philosophical texts, as well as literary and artistic creations. Currently, the course looks at the civilization of the United States, focusing on the "American Dream," its origins, growth and significance. This is a Core Heritage Course. Prerequisite: English C101 or department permission.

3 semester hours

HUMANITIES 300

Seminar

An interdisciplinary and thematic seminar that focuses on the different approaches of history, literature, and philosophy to a common theme or text. Prerequisite: English 101.

3 semester hours

HUMANITIES 395

Thesis

The student will work closely with his or her academic advisor on a mutually acceptable project involving serious research.

3 semester hours

HUMANITIES 399

Independent Study

Requires permission of Chair and instructor. This course is open only to Gerontology majors with at least twelve hours in gerontology. Students wishing to take this course must submit a detailed description of study.

1-6 semester hours

Integrated Studies

INTEGRATED STUDIES C101

Ethical Issues in Computing

Ethical basis for dealing with technological issues involving the computer. Context for ethical decision-making; ethical relativism, utilitarianism, deontology, virtue ethics. Software piracy, intellectual property rights, computer crime, computer viruses and worms, privacy, responsibility, liability and professional ethics. The course includes oral presentations, discussions and written papers on issues currently in the news and/or related to the topics at hand.

3 semester hours

INTEGRATED STUDIES C101B

Ethical Issues in Cptg

3 semester hours

INTEGRATED STUDIES C101C

Intercultural Communication

3 semester hours

INTEGRATED STUDIES C101D

Science and Religion

3 semester hours

International Business

INTERNATIONAL BUSINESS 325

Import/Export

This course surveys functions and responsibilities of international traffic personnel; terms of trade; U.S. and foreign rules and regulations; documentation; methods of payment; ocean transportation; price quotations; analysis of transportation and marine insurance. Prerequisites: ECON 201, ECON 202; junior or senior status.

3 semester hours

Offered: Fall only

INTERNATIONAL BUSINESS 362

International Sales (Commercial) Transactions

This course introduces the basic issues in an international sales transaction. Based on the United Nations Convention on Contracts for the International Sale of Goods (CISG), the course examines formation of international sales contracts, transfer of title to goods, allocation of risk of loss, methods of financing the sale of goods, assurance of payment for goods, and rights and responsibilities of air and sea carriers. Prerequisite: Take BLAW 251.

3 semester hours

Offered: Spring only

INTERNATIONAL BUSINESS 365

International Economic Relations

This course is an introduction to international political economy. International political economy is the study of how and why international economic policies are formed, and how international factors influence domestic policy-making, while comparative political economy examines economic policy-making in a domestic context. The course will deal with important contemporary topics such as foreign trade, capital markets, monetary policy and exchange rates, issues in globalization, and international organizations and institutions such as NAFTA, GATT, the IMF, and the EU.

3 semester hours

Offered: Fall only

INTERNATIONAL BUSINESS 366

International Business and Customs Unions

This course examines the origins and historical development of the European Union, its institutions, business policies and special relationships with the rest of the world to create

International Political Economy and Diplomacy

a common currency to achieve open trade in business across borders. Prerequisite: Take BLAW 251.

3 semester hours

Offered: Spring only

International Political Economy and Diplomacy

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 201 Economics and Development

This is an introductory course of economics from a political science perspective. Major concepts and issues in both macro and micro economics will be covered, particularly as they relate to politics.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 202 Introduction to Political Economy

The Introduction to Political Economy reviews the ways in which politics, trade, and economics are interwoven in today's world. The course introduces students to basic concepts and issues in political economy and examines the factors that have contributed to the evolution of political economy and to the rise and fall of competing models of political economy.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 208 Public International Law

History and nature of international law, territorial sovereignty, natural resources and international norms (e.g. exclusive economic zones, the continental shelf, outer space, etc.), diplomatic & consular relations, International Court of Justice and other tribunals, and the use of force in international law.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 210 Global Public Health

This course provides an overview of global public health policy with the primary focus to engage and inspire students about the opportunities and challenges of global health. This course is divided into four sections: 1. Principles, measurement, goals, and development of global health. 2. Cross-cutting themes in global health 3. The burden and distribution of disease and mortality 4. Global health governance and cooperation.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 299 Special Topics

A course with variable topic focus, dependent

upon student needs and the expertise of the instructor.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 321 (IPED 321/PSCI 321)

Political Economy of East Asia

In recent decades, the East Asian region has often been described as a model of socioeconomic development, which newly developing regions should emulate. This course will encourage learners to explore the extent to which the East Asian paradigm of development is valid for other regions. This course will explore the cultural and historical factors contributing to the political and economic trajectories China, Korea, and Japan. Through studying East Asia's unique sociopolitical and economic trajectory, students should be equipped to better contextualize and assess the challenges and opportunities currently facing the Peoples Republic of China, Taiwan, Hong Kong, Japan, and the Koreas.

3 semester hours

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 329

Political Economy of China

This course is designed to help students make sense of contemporary China—its dynamic social and economic changes, its lasting political culture, its enduring struggle for modernization and democratization, and its evolving relations with the rest of the world. The focus will be on major achievements, problems, and challenges facing China today. Instructor's permission may be required for this course.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 340 (IPED 340/PSCI 303)

Political Economy of Latin America

This course will explore pre-Colombian, as well as colonial and post-colonial political and economic development in Latin America. It will pay particular attention to socio-political developments of the Cold War period as well as recent significant initiatives such as the Santiago Commitment, MERCOSUR, and NAFTA, attempting to assess their impact upon Latin America's transformation from developmentalism, to Third World politics, to an emerging center of democratic capitalism.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 341

Political Economy of Middle East

This course will familiarize the students with the patterns of economic development and the evolution of economic institutions in the

Middle East and North Africa region after World War Two. To the extent that political and social institutions are relevant for understanding the region's economic development, the course will also cover these subjects selectively. For example the students will learn about how regional instability and political institutions of MENA countries have affected their ability to implement economic reforms. Another important topic that will be covered in detail is the impact of oil wealth on political and economic development of the region. The course will also familiarize the students with tools and procedures of country analysis and regional analysis and apply these tools to understanding the present conditions of the MENA countries with an eye to the future trends. The emphasis will be on analysis of the main drivers of economic growth such as the leading economic indicators, prospects for macroeconomic stability, and major risk factors that could have an adverse effect on business climate.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 345

Political Economy of EU

This course studies the origin, evolution and current development of the European Union. Focus will be on the political, economic, and social impact of EU on Europe as a whole, on individual member state, and on EU-US relations. Instructor's permission may be required for this course.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 390

Multinational Corporations in IPED

This course analyzes the role of MNCs in IPE. Topics include the nature, objectives, and decisions of MNCs in today's politics and economics, the political and economic implications of foreign direct investment, and the effects of MNCs' operations overseas on the political economy of the host country and the home country such as issues of outsourcing and insourcing. Instructor's permission may be required for this course. Prerequisite: Political Science 103 or Economics 201 or IPED 202.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 391

Sustainable Development

This course concentrates on the relatively new concept of sustainable development in international political economy. Topics include, but are not limited to, pollution and pollution control, environmental protection, education and occupational training, infrastructure, legal

Japanese • Korean

system, political and economic reform, productivity, human resources, and linkage to the outside world. Instructor's permission may be required for this course.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 392

The Geopolitics of Oil

Due to its critical importance in world economy, petroleum has assumed a significant role in the maintenance of a stable international political, economic, and security order. This course examines the international political economy associated with the exploration, production, trading, and consumption of petroleum. It focuses on how petroleum influences global and regional politics and economics in an interdependent world. Instructor's permission may be required for this course.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 393

Independent Study: International Service Issues

IPED 393 serves as the independent study designation for students participating in the University of Bridgeport Peace Corps Prep program. In collaboration with the UB Peace Corps Prep Coordinator, students may design an independent study including readings and assignments designed to enhance their understanding of a topic of relevance to international service careers.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 394

Peace Corps Prep Community Service

This is the community service component of the University of Bridgeport Peace Corps Preparatory Program. To receive credit from the course, each student must complete no fewer than 100 recorded service hours in a position that helps prepare her/him for service in the United States Peace Corps and/or an international service career. Such relevant fields include international education, community development, sustainable development and public health. *Includes 50 hours of Community Service*

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 395

Senior Thesis Seminar

This is the advanced senior thesis seminar required course for all IPED majors. During this course, each student will design a research plan and complete writing an thesis on political economy and related fields of research under the supervision of a faculty thesis advisor.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 396

Seminar on IPED

This is an advanced research seminar for IPED majors. It focuses on IPE research methods and senior thesis writing. Instructor's permission may be required for this course.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 397

Seminar in Public & International Service

This is a course designed to prepare upper level undergraduates for careers in international service. The course will introduce students to career opportunities available in international nonprofits, government agencies, international organizations and multinational corporations. It will also provide students with practical skills associated with successfully securing meaningful employment after graduation, with issues covered including the job search, networking, internships, volunteering, mentoring and networking. During the semester, professionals from an array of international service career tracks will speak to students about their personal experiences and recommendations. In addition, students will read and discuss works of literature that relate to life and work abroad in foreign locations, and the personal benefits and learning associated with such experiences.

3 semester credits

INTERNATIONAL POLITICAL ECONOMY AND DIPLOMACY 398

Internship

Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.
1-6 semester hours

Japanese

JAPANESE 101

Elementary Japanese I

In this course students are introduced to the Japanese language and culture. Basic skills in speaking, listening, reading, and writing are developed. Cultural readings and videos are included in each lesson giving the students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. This is a course for students with little or no knowledge of Japanese language.

3 semester hours

JAPANESE 102

Elementary Japanese II

This course builds on the foundations laid in Japanese 101 and continues to introduce stu-

dents to Japanese language and culture. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course students are expected to reach a beginner level of Japanese language proficiency and should be able to understand/identify familiar vocabulary and conversation topics; engage in a conversation in a target language on a familiar topic; express opinions/feelings about a familiar topic; read and comprehend short simple texts; write short simple sentences. Prerequisite: Japanese 101.

3 semester hours

JAPANESE 103

Intermediate Japanese I

This course builds on the foundations laid in Japanese 101 and Japanese 102 and provides an opportunity to improve Japanese language proficiency beyond the beginner level. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. Prerequisite: Japanese 102.

3 semester hours

JAPANESE 104

Intermediate Japanese II

This course builds on the foundations laid in Japanese 103. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course the students are expected to reach an intermediate level of Japanese language proficiency and should be able to understand/identify a range of vocabulary items and topics; engage in a conversation in a target language on a range of topics; express opinions/feelings about a range of topics; read and comprehend medium length texts; write medium complexity sentences. Prerequisite: Japanese 103.

3 semester hours

Korean

KOREAN 101

Elementary Korean I

In this course students are introduced to the

Law • Management and Industrial Relations

Korean language and culture. Basic skills in speaking, listening, reading, and writing are developed. Cultural readings and videos are included in each lesson giving the students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. This is a course for students with little or no knowledge of Korean language.

3 semester hours

KOREAN 102

Elementary Korean II

This course builds on the foundations laid in Korean 101 and continues to introduce students to Korean language and culture. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course students are expected to reach a beginner level of Korean language proficiency and should be able to understand/identify familiar vocabulary and conversation topics; engage in a conversation in a target language on a familiar topic; express opinions/feelings about a familiar topic; read and comprehend short simple texts; write short simple sentences. Prerequisite: Korean 101.

3 semester hours

KOREAN 103

Intermediate Korean I

This course builds on the foundations laid in Korean 101 and Korean 102 and provides an opportunity to improve Korean language proficiency beyond the beginner level. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. Prerequisite: Korean 102.

3 semester hours

KOREAN 104

Intermediate Korean II

This course builds on the foundations laid in Korean 103. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course the students are expected to reach an intermediate level of Korean language proficiency and should be able to understand/identify a range of vocabulary items and topics;

engage in a conversation in a target language on a range of topics; express opinions/feelings about a range of topics; read and comprehend medium length texts; write medium complexity sentences. Prerequisite: Korean 103.

3 semester hours

Law

LAW 251

Business Law I

Court systems, sources of law in the United States, the constitutional basis of the legal system, government power to regulate business, the types and powers of administrative agencies, civil dispute resolution and alternatives to civil litigation; the law of contracts, fairness and good faith in interpretation of contracts, and the United Nations Convention on Contracts for the International Sale of Goods; problems in Agency and Employment, the ethical implications of business decisions, the broad functions of criminal and tort law, the Foreign Corrupt Practices Act, and the constitutional limitations on criminal procedure. Prerequisite: Sophomore status. Take 30 credits.

3 semester hours

Offered: Spring/Fall Only

LAW 252

Business Law II

Uniform Commercial Code (Sales, Commercial Paper, Bank Deposits and Collection); business organization; Property (Personal Property, Real Property, including Landlord and Tenant, and Estates and Wills). Prerequisite: Business Law 251.

3 semester hours

Offered: Spring Only

Management and Industrial Relations

MANAGEMENT 200

Workforce Dynamics

This course is designed to introduce students to the management process as well as concepts and practices relevant to understanding workforce dynamics. Organizational behavior is examined on a conceptual level to enhance understanding of workforce needs, challenges, trends, and processes. An exploration of personal and professional development is also facilitated, with an emphasis on employer expectations and an opportunity to hone individual skill sets. Prerequisite: take BUAD 101.

3 semester hours

Offered: Spring/Fall only

MANAGEMENT 300

Interpersonal and Group Behavior in Organizations

The student is introduced to behavior in organizations on interpersonal, group and intergroup levels. Group process is examined on both conceptual and experiential levels to enhance understanding of interpersonal and group processes, as well as to test and hone individual interpersonal and group participation skill. Theories of Social Psychology and Group Sociology are examined and applied. Prerequisite: junior status.

3 semester hours

MANAGEMENT 301

Operations Management

The student is introduced to the basic tools and concepts used in managing the delivery of products and services. Inventory cost control, work flow design, development of work standards, workplace layout, quality control, project management, forecasting, capital investment planning, capacity policy and related methods for management of operations are presented in this course. Prerequisite: CAIS-201 AND MUST HAVE 45 CREDITS

3 semester hours

Offered: Spring/Fall only

MANAGEMENT 302

Multicultural Management

This course introduces students to the basics of organization and management theory, as they apply to the global market place. A cross-cultural approach is used to examine the similarities, differences and application of theory across national boundaries; and to identify those structural constants that permit business to be conducted on a global scale. Organization culture, role structure, coordination and control methods, leadership, and business strategy are the basic theoretical constructs introduced and evaluated in the course. Prerequisite: Take 30 credits.

3 semester hours

Offered: Spring/Fall only

MANAGEMENT 305

Human Resource Issues in Management

The student is introduced to current theory, research and practice in the management of human resources in organizations. Job design, recruitment, selection, performance feedback, goal setting, training, employee rights, safety,

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compensation and benefits issues are reviewed within the context of their application in the US as a world standard for such practices, with comparisons to customs and practices in the international arena. Prerequisite: MGMT-302 OR PRST-300 OR PRST-201; Minimum grade C.

3 semester hours

Offered: Spring only

MANAGEMENT 311

Comp and Benefit Administration

Students in this course will examine the major foundation programs and skills that under grid the current practice of Human Resource Management. Theory and method used in the design of compensation systems is explored, interviewing method and skill as applied to data gathering for problem solving or personnel selection, surveys for compensation benchmarking or employee attitude measurement, and development of performance feedback and goal setting (MBO) programs are intensively reviewed. Student projects in program applications are required. Prerequisite: MGMT 302 or MGMT-305.

3 semester hours

Offered: Fall only

MANAGEMENT 320

Business Planning

For starting or buying a new business, it is critical to develop practical business plans, obtain financing, develop a marketing plan, project cash flow, organize the business, and develop financial controls to take advantage of opportunities in both domestic and international markets. Works is done in teams and computer analysis is used. Prerequisite: Accounting 102, Marketing 305, and Management 302

3 semester hours

Offered: Spring/Fall only

MANAGEMENT 321

International Entrepreneurship

This course examines the unique opportunities and difficulties facing entrepreneurs in an international environment. It examines entrepreneurs in various stages of development at decision points in their business- launch, fund, manage, grow, enter new markets, go public, exit events.

3 semester hours

MANAGEMENT 330

Leadership Lessons from the Movies

In this course students watch a variety of movies to examine the dynamics of leadership. Organizations and work units rise and fall

based on leadership. Leaders must influence other people to accomplish organizational goals in a way that often entails self-sacrifice and living for the sake of others. Prerequisite: MGMT-302.

3 semester hours

Offered: Spring/Summer/Fall

MANAGEMENT 340

Conflict and Negotiation

The development of conflict-management and negotiating skills with particular emphasis on achieving effective and efficient outcomes within a global and multi-cultural context. Experiential exercises, readings and discussions will demonstrate various strategies for a broad range of negotiating scenarios, e.g., buyer-seller, management-labor, personal salary increase, cross-national, etc. Prerequisite: MGMT-305 or PRST-201; Minimum grade C.

3 semester hours

Offered: Fall only

MANAGEMENT 342

Labor Law and Arbitration

Modern labor legislation and its practical impact on present relations between labor and management. Increasing role of government through federal statutes and agencies. Historical background, principles, procedures and judicial aspects of arbitration process. Nature and function of arbitration; powers of arbitrator; and arbitration cases. Prerequisite: Take MGMT-302 or MGMT-305 or PRST-201.

3 semester hours

Offered: Spring only

MANAGEMENT 348

Project Management

Prerequisite: MGMT-302.

3 semester hours

MANAGEMENT 350

Business Policy and Strategy

A study of decision-making including integrating analyses and policy determination at the overall management level. Students search for new knowledge and solutions to long and short term problems and opportunities in specific businesses. The coordination, integration and innovative application of theory and methods learned in previous courses are the tools of research. Accordingly, the final examination of each course shall constitute, therefore, an outcome assessment of what the student has learned in the program. This examination, normally an extensive and comprehensive case study, will be graded by several faculty members representing different and relevant disciplines. Prerequisite: Senior status.

3 semester hours

Offered: Spring/Summer/Fall

The following courses are suggested for those students who wish to take elective courses in other disciplines which are related to or useful in the practice of management:

Communication in Industry.

—See MCOMM 385.

Industrial Psychology.

—See PSYC 309.

Social Psychology.

—See PSYC 305.

Tests and Measurements.

—See PSYC 323.

Marketing

MARKETING 205

Principles of Marketing

The scope and significance of marketing. The retailing and wholesaling of consumer goods. Marketing agricultural and industrial goods. Marketing policies and practices of business firms.

3 semester hours

Offered: Spring/Fall only

MARKETING 305

Principles of Marketing

The scope and significance of marketing. The retailing and wholesaling of consumer goods. Marketing agricultural and industrial goods. Marketing policies and practices of business firms. Prerequisite: take 30 credits.

3 semester hours

MARKETING 306

Digital Consumer Behavior

A qualitative analysis of marketing as a system for the satisfaction of human wants. The contribution of psychologists, sociologists, anthropologists, and other behavioral scientists to the understanding of consumer behavior. Such topics as motivation, learning, life-cycle and social-class analysis, culture and custom. Prerequisite: MKTG 305.

3 semester hours

Offered: Fall only

MARKETING 307

Marketing of Promotion

Advertising, personal selling, trade support, and public relations as elements of strategy. Situation analysis planning, execution, and evaluation of promotional campaigns. Social responsibilities of the firm and some of its ethical problems. The impact of consumerism. Prerequisite: MKTG 305.

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3 semester hours

Offered: Spring only

MARKETING 308

Marketing Research

Objectives, techniques, and limitations of library and field research applied to advertising, retailing, or sales management problems. Assignment of group projects requiring considerable initiative and resourcefulness. Measurements of individual accomplishment by both group activity and individual evaluation of the project. Prerequisite: MKTG 305.

3 semester hours

Offered: Fall only

MARKETING 309

Digital Marketing

New and developing digital technologies have impacted many basic platforms for which today's organizations operate and function. This course will focus on how businesses can develop, incorporate and leverage digital marketing into their overall marketing strategies. Additionally this course will investigate current e-commerce and mobile commerce trends. Prerequisite: MKTG 205.

3 semester hours

MARKETING 319

Integrated Marketing Communications

This course covers various methods of integrated marketing communications, with the focus on planning and execution of IMC programs. Case studies on award-winning examples of personalized and experiential marketing. Takes the perspective of the account executive or "client" side of business rather than the "creative" side. Prerequisite: MKTG 305.

3 semester hours

Offered: Spring only

MARKETING 325

Sales Management

Management of manufacturer's salesmen. Sales department organization. Selecting, training, compensating, and supervising salesmen. Sales territories, travel expenses, quotas, and budgets. Principles are applied to concrete problems. Prerequisite: MKGT 305.

3 semester hours

Offered: Fall only

MARKETING 342

Multinational Marketing

Lecture and case studies, exploring cultural, political, economic and legal aspects of the development and operation of companies marketing overseas. Planning, organizing,

controlling, and promoting for industrial and consumer goods. Prerequisite: MKTG 205.

3 semester hours

Offered: Spring/Fall only

MARKETING 348

Internet and Social Media Marketing

Prerequisite: MKGT 205.

3 semester hours

MARKETING 350

Marketing Management

The nature and scope of marketing management. The interpretation of environmental factors affecting marketing decisions and application of managerial concepts to marketing strategy. Adaptation of resources and objectives in the development of marketing plans. Prerequisite: MKTG 305.

3 semester hours

Offered: Fall only

Martial Arts Studies

MARTIAL ARTS STUDIES 110

Taekwondo (Beginner)

This is an introduction to Taekwondo, commencing with instructions in essential classroom etiquette and training rules. Through this course, students are expected to achieve mastery of Taekwondo forms Taegeuk No. 1 & 2 as well as white belt Hammer Fist and Axe kick breaking techniques, and yellow belt Palm Fist and Front Snap kick breaking techniques.

2 semester hours

MARTIAL ARTS STUDIES 110A

Taekwondo I/II

Prerequisite/Corequisite: MARTS 110

1 semester hour

MARTIAL ARTS STUDIES 111

Taekwondo Practicum 2

This level of Taekwondo training focuses on the adaptation of the body to martial art training. Through this course, students are expected to achieve mastery of Taekwondo forms Taegeuk No. 3 & 4, self defense techniques No. 3 & 4, kicking techniques with a focus on the Roundhouse kick and Side kick, sparring techniques with a focus on orange belt Elbow strike and Roundhouse kick breaking techniques and green belt Straight punch and Side kick breaking techniques.

1 semester hour

MARTIAL ARTS STUDIES 112

Taekwondo Practicum 3

This course focuses on enhancing the student's ability to maintain and increase physical balance. Through this course, students are expected to achieve mastery of Taekwondo forms Taegeuk No. 5 & 6 (20 motions No. 5 & 23 motions No. 6, guiding themes "wind & flowing like water"), self defense techniques No. 5 & 6, kicking techniques with a focus on the Back kick and Hook kick, sparring techniques with a focus on 1:1 basic sparring, blue belt Back fist and Back kick breaking techniques and brown belt Knife hand and Hook kick breaking techniques.

1 semester hour

MARTIAL ARTS STUDIES 114

Taekwondo Practicum 4

This Taekwondo class will focus on enhancing concentration skills. Through this course, students are expected to achieve mastery of Taekwondo form Taegeuk No. 7, self defense technique No. 7, kicking techniques with a focus on the Back Spin Hook kick, sparring techniques with a focus on basic skill sparring, breaking techniques of Half Knuckle punch and Back Spin Hook kick. At the completion of this course, there will be a 1st degree black belt test for participating students.

1 semester hour

MARTIAL ARTS STUDIES 121

Taiji (I/II)

This course introduces the student to Martial Arts of Taiji including the performance of the first part of the Yang Style short form. It includes an introduction to Taiji principles, and will work to expand the student's range of motion, coordination, and introduce students to Qigong level 1 training on exercises one to five. It will introduce and compare the major Taiji styles and note how they differ from each other. Fighting applications of Taiji (as well as the health applications) will be presented. The concepts of flexibility and range of motion are introduced as tools to explain Taiji's principles. Practicum 1 will also introduce physical principles of head suspended; the pelvis tucked in with toe in and knee out; relaxed execution of smooth movements; exercises for overall coordination of the body and the mind-body connection. This practicum presents the first 16 movements of the Yang Style Short Form. Students will learn to demonstrate the 16 movements and begin to incorporate the physical principles into the 16 Taiji movements. Students will learn the horse stance and bow stance and be introduced to the role that

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they play in Taiji movements. Emphasis is on slow and relaxed movement of the body as a single coordinated unit.

2 semester hours

MARTIAL ARTS STUDIES 121A

Taiji & Qi-gong

Prerequisite/Corequisite: MARTS 121.

1 semester hour

MARTIAL ARTS STUDIES 122

Taiji Practicum 2

This course will include form correction of the first part of the Yang Style Short Form, further analysis of Taiji principles and a detailed application and study of the meaning of Taiji movements. Form correction incorporates the concept of qi into movement and into the execution of the form. The focus is on correctly executing the first 16 moves while observing Taiji's physical principles. This course will include body strengthening and alignment using Qigong training on exercises six to twelve. It also introduces the physical principles of the seesaw movement and the concave chest. Additional instruction is provided to strengthen the body to maintain proper alignment and balance throughout the form. Form correction further seeks to eliminate the reinforcement of poor execution caused by repeating incorrect form movements in the early stages of Taiji training. Taiji 2 expands basic Qigong training by introducing Qigong exercises to promote alignment and strength. Prerequisite: Marts 121 or Instructor's Approval based on Testing.

1 semester hour

MARTIAL ARTS STUDIES 123

Taiji Practicum 3

This course will introduce students to the second part of the Yang Style Short Form. Students will learn to incorporate Taiji principles into the form. At this stage, greater emphasis will be placed on integrated body movement and mind power (concentration) to move the body as a single unit and will include Qigong training level 3 on the entire set of exercises one to twelve.

Taiji 3 reinforces the understanding of the physical principles (head suspended; pelvis tucked in with toe in and knee out; chest concave; body rounded; shoulders lowered; waist loose; 'qua' loose; and deep breathing). It introduces the skills required to incorporate the principles into Taiji learning and practice. The concepts of flexibility and range of motion are presented for discussion and written assignments. Research methods will be introduced to permit independent gathering of Taiji

information for study and personal growth. Taiji 3 also presents Qigong training, continuing to prepare students physically for proper Taiji execution. Qigong exercises are more strenuous and are aimed at greater flexibility with longer strength-training periods.

Prerequisite: Marts 122 or Instructor's Approval based on Testing.

1 semester hour

MARTIAL ARTS STUDIES 124

Taiji Practicum 4

This course will introduce the third part of the Yang Style Short Form. It will incorporate breathing techniques into the form and will introduce the concept of form assessment for the incorporation and execution of Taiji principles. It will build on earlier training to begin to introduce the martial arts applications of Taiji in preparation for push hands classes and Qigong training level 4 on the entire set (exercises one to twelve). This course will begin to prepare students to assume leadership roles in higher levels of study. Taiji 4 reviews Taiji's principles and communicates how the Taiji form performance is assessed based on the principles. Both the self-defense aspects and the self-cultivation aspects (of body, mind & spirit) of the Yang Style Short Form will be presented. The class will stress ongoing individual Taiji training and students will be encouraged to develop individual Taiji training formats. This class also presents training and information required to lead Qigong classes on the entire set of twelve exercises. Prerequisite: Marts 123 or Instructor's Approval based on Testing.

1 semester hour

MARTIAL ARTS STUDIES 125

Taiji Sword

3 semester hours

MARTIAL ARTS STUDIES 131

Judo

2 semester hours

MARTIAL ARTS STUDIES 131A

Judo

Prerequisite/Corequisite: MARTS 131.

1 semester hour

MARTIAL ARTS STUDIES 133

Kumdo

2 semester hours

MARTIAL ARTS STUDIES 133

Kumdo

Prerequisite/Corequisite: MARTS 133.

1 semester hour

MARTIAL ARTS STUDIES 141

Tongil Moodo

2 semester hours

MARTIAL ARTS STUDIES 212

The History of Martial Arts

This course traces the origins, growth and diversification of the Martial Arts in China, Korea and Japan. Emphasis is placed on the evidence of primary historical texts, including the Five Classics of pre-Qin China as well as early histories of Korea and Japan such as the Samguk Yusa and the Kojiki. The historical information gleaned from these sources is compared to the narratives and mythologies passed down through the written and oral traditions of the various schools. We examine the unfolding of the Shaolin Gongfu schools influenced by Chan as well as the Wudang tradition influenced by Daoism, the emergence of Martial Arts in the Hwarang movement of the Korean Silla kingdom and their revival after the Japanese occupation, and the transformation of Gongfu traditions in Japan via Okinawa.

3 semester hours

MARTIAL ARTS STUDIES 213

Martial Arts and East Asian Thought

This course examines the impact of East Asian philosophy and religion on the Martial Arts. The course begins by outlining the major teachings of Buddhism, Daoism, and to a lesser extent, Confucianism, focusing on key classics. Following this we will explore the ways in which these teachings came to influence what was originally a martial tradition, resulting in a variety of complex systems that placed greater emphasis on mental as well as physical powers, self-cultivation and personal fulfillment.

3 semester hours

MARTIAL ARTS STUDIES 214

Daoism and Taiji

This course will examine both the historical and conceptual relationship between Daoism and Taiji. It will examine ways in which key concepts of Daoism are reflected in Taiji practice. In the study of the history of the relationship between Daoism and Taiji, we will note the differences between the received tradition of this relationship (as transmitted from master to student in the pedagogical process) versus historical documentation that, through primary sources, independently confirms the longstanding ties between the two. In the re-

Martial Arts Studies

view of the linkage between Daoism and Taiji we will focus on the cosmology of the Book of Changes, which informs the conceptual framework of Taiji, as well as influential Daoist concepts such as Wu Wei (No Action), Yin and Yang and passive values as depicted in the Laozi, Zhuangzi, the Book of Changes, and the Taijiquan Treatise.

3 semester hours

MARTIAL ARTS STUDIES 235

Issues in Taekwondo

This course invites students to consider the challenges faced by Taekwondo at this stage in its history. Through selected readings and class discussions students will consider such pertinent issues as the perception of Taekwondo as an overly aggressive sport or as an unregulated industry, far removed from the ideals of its progenitors. Discussion will also consider ways in which Taekwondo has been transformed through its assimilation into academia and into non-Korean society. Participants will consider the impact that Taekwondo has had on youth in the United States and will examine whether and how it might make a positive contribution towards the problems that they face.

3 semester hours

MARTIAL ARTS STUDIES 241

Taekwondo Practicum 5

This level of Taekwondo training focuses on the cultivation of self-control. Through this course, students are expected to achieve mastery of Taekwondo forms Go-Ryo & Pal-Gae No. 1, intermediate self defense techniques No. 1 & 2, kicking technique and board breaking with a focus on the Jump Axe kick and Jump Front kick, sparring techniques with a focus on Olympic style sparring offense combination skills, 1st degree black belt (level 7) Jump Axe kick breaking techniques and 1st degree black belt level 6 belt Jump Front kick breaking techniques.

1 semester hour

MARTIAL ARTS STUDIES 242

Taekwondo Practicum 6

This level of Taekwondo training focuses on the cultivation of self-confidence. Through this course, students are expected to achieve mastery of Taekwondo forms Pal-Gae No. 2 & 3, intermediate self defense techniques No. 3 & 4, kicking techniques with a focus on the Jump Roundhouse kick and Jump Side kick, sparring techniques with a focus on Olympic style sparring defense combination skills, 1st degree black belt level 5 Jump Roundhouse kick breaking techniques and 1st

degree black belt level 4 belt Jump Side kick breaking techniques.

1 semester hour

MARTIAL ARTS STUDIES 243

Taekwondo Practicum 7

This level of Taekwondo training focuses on the cultivation of patience and endurance. Through this course, students are expected to achieve mastery of Taekwondo forms Pal-Gae No. 4 & 5, intermediate self defense techniques No. 5 & 6, kicking technique with a focus on the Jump Back kick and Jump Hook kick, sparring techniques with a focus on Olympic style sparring offense and defense combination skills, 1st degree black belt level 3 Jump Back kick breaking techniques and 1st degree black belt level 2 belt Jump Hook kick breaking techniques.

1 semester hour

MARTIAL ARTS STUDIES 244

Taekwondo Practicum 8

This level of Taekwondo training focuses on the cultivation of self-esteem as well as self-control. Through this course, students are expected to achieve mastery of Taekwondo forms Pal-Gae No. 6 (guiding theme "water"), intermediate self defense technique No. 7, kicking techniques with a focus on the Jump Back Spinning Hook kick, sparring techniques with a focus on Olympic style sparring offense and defense combination skills and hand combination techniques, 1st degree black belt level 1 breaking Jump Back Spinning Hook kick techniques. After this level is completed, there will be the 2nd degree black belt test including a Martial Arts Essay test.

2 semester hours

MARTIAL ARTS STUDIES 244A

Taekwondo Practicum 8

Prerequisite/Corequisite: MARTS 244.

1 semester hour

MARTIAL ARTS STUDIES 251

Taiji Practicum 5

Practicum 5 introduces the ways in which beginning fighting techniques rely on movement from the Short Form. The intermediate practica (practica 5-8) are meant to provide a comprehensive grasp of the self-defense and martial arts aspects of Taiji through the acquisition of specific techniques and training. Systematic training is divided into 4 levels designed to educate students in basic self-defense techniques and internal strength training up to the competitive Martial Artist level. Practicum 5 emphasizes coordination and flexibility. In

Practicum 5 students begin the practice of the push hands and are introduced to the fast form that consists of set routines of defense, repositioning, attacks, movements and strikes. Prerequisite: MARTS 124 or Instructor's Approval based on Testing.

1 semester hour

MARTIAL ARTS STUDIES 252

Taiji Practicum 6

Practicum 6 dedicates special attention to the philosophy and practice of Qi Gong for the purpose of cultivating qi and improving self defense and short form skills. Self-defense on this level includes the study of yielding and sticking to neutralize an attacker's strength and skills. The intermediate practica provide a comprehensive grasp of the self-defense and martial arts aspects of Taiji through the acquisition of specific techniques and training. Systematic training is divided into 4 levels designed to educate students in basic self-defense techniques and internal strength training up to the competitive Martial Artist level. Practicum 6 also emphasizes correction and improvement of the Short Form. Prerequisite: MARTS 251 or Instructor's Approval based on Testing.

1 semester hour

MARTIAL ARTS STUDIES 253

Taiji Practicum 7

Practicum 7 focuses on the application of the short form for self defense and it also emphasizes continued Short Form improvement. The intermediate practica (5-8) provide a comprehensive grasp of the self-defense and martial arts aspects of Taiji through the acquisition of specific techniques and training. Systematic training on this level is meant to help to prepare with the basic self-defense techniques and internal strength training needed to begin to compete on the level of a Taiji Martial Artist. Prerequisite: MARTS 252 or Instructor's Approval based on Testing.

1 semester hour

MARTIAL ARTS STUDIES 254

Taiji Practicum 8

Practicum 8 is meant to complete students' training in basic self-defense techniques and internal strength training to the level needed to be a Martial Artist who can participate in Taiji competitions. Practicum 8 focuses on Punching & kicking techniques, footwork and endurance training. It also emphasizes correction and preparation of the Short Form for demonstration. In preparing students for graduation, Practicum 8 provides a comprehensive review of the Taiji topics and techniques introduced

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in earlier practica. Prerequisite: MARTS 253 or Instructor's Approval based on Testing.

1 semester hour

MARTIAL ARTS STUDIES 261

Psychosocial Aspects of Martial Arts

The present course introduces students to the Western concepts of psychosocial development and self-actualization and to the East Asian concept of self-cultivation. It then identifies the character development objectives of three different martial arts—Taiji, Taekwondo, and Judo. It follows with an examination of research on the psychological impact of practicing martial arts, with an emphasis on self-concept, self-esteem, mood, phenomenology, psychological health, psychotherapeutic outcomes, and self-actualization. In addition, the course examines the impact of the martial arts on aggression and hostility, sex discrimination and feminist awareness, and traditionalism versus modernization. Prerequisite: Psychology 103.

3 semester hours

MARTIAL ARTS STUDIES 278

Survey of the Martial Arts

This course introduces the theoretical foundations of a variety of Martial Arts, including Taiji, Gongfu, Taekwondo, Hapkido, Karate, Judo, and Jujitsu. Through video, demonstrations, and other modalities students will also be exposed to the major techniques used in each of the Martial Arts introduced.

3 semester hours

MARTIAL ARTS STUDIES 299

Meditation/Yoga

2 semester hours

MARTIAL ARTS STUDIES 299A

Meditation/Yoga

Prerequisite: Corequisite: MARTS 299

1 semester hour

MARTIAL ARTS STUDIES 300

Martial Arts Research Methods

An introduction to the methods of research and criticism employed in history, economics, anthropology, sociology, psychology, and political science. Social Sciences majors will gain experience in both statistical and interpretative methods that will be useful for their senior thesis. PC access required. Prerequisite: 60 credits. 3 semester hours

MARTIAL ARTS STUDIES 310

Olympic Sparring Training

2 semester hours

MARTIAL ARTS STUDIES 311

Communication and Martial Arts

This course is designed to introduce Martial Arts Studies students to the concepts and practices of intercultural communication. Topics will include Martial Arts and non-verbal communication, Martial Arts and verbal communication, the influence of culture on communication and intercultural conflict resolution. The course will be conducted in the context of the martial artist as a leader and as a communicator. The martial artist will be viewed as a communicator both in the role of instructor and in the role of manager.

3 semester hours

MARTIAL ARTS STUDIES 312

Image and Reality in the Martial Arts

This course explores popular concepts about the Martial Arts as depicted in modern media, particularly cinema and television, and contrasts them with historical and literary perspectives drawn from East Asian classics and Martial Arts texts.

3 semester hours

MARTIAL ARTS STUDIES 319

Taekwondo Practicum 9

This level of Taekwondo training focuses on enhancing team spirit and cooperation. Through this course, students are expected to achieve mastery of Taekwondo form Keumkang (guiding theme "wisdom and virtuousness"), advanced self defense techniques No. 1 & 2, kicking technique with a focus on the Double Front kick and Double Roundhouse kick, sparring techniques with a focus on Olympic style offense strategy skills, 2nd degree black belt level 7 Double Front kick breaking techniques and 2nd degree black belt level 6 belt Double Roundhouse kick breaking techniques. Beginning with the achievement of the 2nd degree black belt, students are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 320

Taekwondo Practicum 10

This level of Taekwondo training focuses on cultivating the sense of personal achievement. Through this course, students are expected to achieve mastery of Taekwondo form Taebak (guiding theme "human"), advanced self defense techniques No. 3 & 4, kicking technique with a focus on the Double Side kick and Double Back kick, sparring techniques with a focus on Olympic style defense strategy skills,

2nd degree black belt level 5 Double Side kick breaking techniques and 2nd degree black belt level 4 belt Double Back kick breaking techniques. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 321

Taekwondo Practicum 11

This level of Taekwondo training focuses on cultivating dedication to goals and ideals. Through this course, students are expected to achieve mastery of Taekwondo form Sipjin (guiding theme "nature's 10 ideas"), advanced self defense techniques No. 5 & 6, kicking technique with a focus on the Double Hook kick and Double Back Hook kick, sparring techniques with a focus on Olympic style offense and defense strategy skills, 2nd degree black belt level 3 Double Hook kick breaking techniques and 2nd degree black belt level 2 belt Double Back Hook kick breaking techniques. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 322

Taekwondo Practicum 12

This level of Taekwondo training focuses on cultivating humility. Through this course, students are expected to achieve mastery of Taekwondo form Keumkang (guiding theme "wisdom and virtuousness"), advanced self defense techniques No. 7, kicking technique with a focus on the Tornado kick, sparring techniques with a focus on Olympic style psychological strategy skills, 2nd degree black belt level 1 breaking techniques of Tornado kick. After this level is completed, there will be the 3rd degree black belt test including a Martial Arts Essay test. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 323

Taekwondo Practicum 13

This level of Taekwondo training focuses on enhancing the sense of magnanimity and service to others. Through this course, students are expected to achieve mastery of Taekwondo form Jitae (guiding theme "human and nature"), high advanced self defense techniques No. 1 & 2, kicking techniques with a focus on the Jump Point kick and Jump Scissor kick, sparring techniques with a focus on free style defense sparring, 3rd degree black belt level 7

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Jump Point kick breaking techniques and 3rd degree black belt level 6 belt Jump Scissor kick breaking techniques. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 324

Taekwondo Practicum 14

This level of Taekwondo training focuses on cultivating social and leadership skills. Through this course, students are expected to achieve mastery of Taekwondo form Cheonkwon (guiding theme "universal"), high advanced self defense techniques No. 3 & 4, kicking technique with a focus on the Jump Split Front kick & Jump 360° Back Kick, sparring techniques with a focus on free style offense sparring, 3rd degree black belt level 5 Jump Split Front kick breaking techniques and 3rd degree black belt level 4 belt Jump 360° Back kick breaking techniques. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 325

Taekwondo Practicum 15

This level of Taekwondo training focuses on the cultivation of ethical thinking. Through this course, students are expected to achieve mastery of Taekwondo form Hansoo (guiding theme "water"), high advanced self-defense techniques No. 5 & 6, kicking technique with a focus on the Jump Triple Front kick & Jump Triple Roundhouse Kick, sparring techniques with a focus on free style offense/defense combination sparring, 3rd degree black belt level 3 Jump Triple Front kick breaking techniques and 3rd degree black belt level 2 belt Jump Triple Roundhouse kick breaking techniques. Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 326

Taekwondo Practicum 16

This level of Taekwondo training focuses on consolidating the various aspects of self cultivation. Through this course, students are expected to achieve mastery of Taekwondo form Illyo (guiding theme "mind/body unity"), high advanced self-defense techniques No. 7, kicking technique with a focus on the Creative kick, sparring techniques with a focus on the meaning of sparring, 3rd degree black belt level 1 Creative kick breaking techniques. Upon the completion of this level, students will have the 4th degree black belt test including both a practical test and a written examination.

Students in this class are qualified to serve as teaching assistants.

1 semester hour

MARTIAL ARTS STUDIES 395

Senior Thesis or Presentation

The senior thesis or a creative presentation based on the Martial Arts emphasizes research and research methods. This course may only be taken after having completed 90 semester hours or more in the program. If a student elects to write a thesis, his/her work will be expected to demonstrate a theoretical understanding of the Martial Arts (e.g., technical, philosophical, and historical) and their relationship with the broader cultural, philosophical, and social context in which they evolved. Independent research and creative thinking will be emphasized as well as the ability to gather and conduct research and formulate a position in a critical and analytical manner. Students choosing to do a presentation based on their Martial Arts skills would normally do so both to demonstrate their technical mastery of the Martial Arts as well as their creativity. The senior presentation might consist of projects such as the creation and performance of a new form or the adaptation of a Martial Arts form to music or to poetry. The presentation should show ways in which the Martial Arts contribute to a broader socio-cultural context.

3 semester hours

MARTIAL ARTS STUDIES 398

Internship

Senior level students of the Martial Arts Studies degree program should complete an internship at an established Martial Arts school or in a business, or government agency. The internship will be complemented by a written report and will be done under the supervision of a professor.

3 semester hours

MARTIAL ARTS STUDIES 399

Independent Study

1-3 semester hours

Mass Communication

MASS COMMUNICATION 110

Public Communication

The process and variables of everyday public speaking are examined through situations, content, presentation strategies and effects, and by classroom practice in the basic principles of oral communication.

3 semester hours

MASS COMMUNICATION 111

Introduction to Mass Communication

The role and function of the mass media. Survey of traditional and digital media. Criticism, challenges and professional opportunities.

3 semester hours

MASS COMMUNICATION 201

Persuasive Communication

Study of communication as a form of influence; the process and functions involved, its potential and limitations; social and personality factors related to persuasion, attitude formation and change. Students will analyze and present persuasive messages.

3 semester hours

MASS COMMUNICATION 205

Interpersonal Communication

An introductory survey of interpersonal communication theories and their application to face-to-face, group, organizational and mediated contexts. The classroom becomes a laboratory for gaining knowledge of the processes of communication, perception, language and meaning.

3 semester hours

MASS COMMUNICATION 211

Communication Theory

An examination of communication theories which includes theories on verbal communication, nonverbal communication, interpersonal communication, self-concept, relationship development, influence, conflict, group communication, decision-making, gender communication, organizational communication, intercultural communication, and media communication.

3 semester hours

MASS COMMUNICATION 218

Media Aesthetics

The artistic philosophy and practical applications of creating effective media. This is a hands-on laboratory course. The study focuses on aesthetics as a physical expression of creative and marketing goals and how this is put into practice when communicating messages through images and words. Subjects include compositional strategy, visual literacy and message design. This knowledge shapes design critical to working in new media and every other type of media produced—websites, documents, ads, brochures, video, proposals, and more. This course will offer an introduction to Photoshop.

3 semester hours

MASS COMMUNICATION 220

Introduction to Advertising

Mass Communication

An examination of the theories and practices of advertising. Historical, legal, and social psychological aspects of advertising. Advertising explored from both client side and agency side perspectives.

3 semester hours

MASS COMMUNICATION 235

Writing for Media

An introduction to media writing. Students will practice writing and editing news, public relations materials, broadcast scripts, and advertising copy. It includes a grammar and style review specifically for print and interactive media.

3 semester hours.

MASS COMMUNICATION 240

News Reporting & Writing

Introduction to reporting techniques – sources of news, interviewing, public document and database searches – and their application in writing various forms of news stories.

3 semester hours

MASS COMMUNICATION 242

Introduction to New Media

An overture to digital media and new technology. This primer includes history, current digital media trends, and a look at the future of digital media. The class explores the social, political and cultural implications of an ever-changing media landscape. This is a heavily hands-on, project based class.

3 semester hours

MASS COMMUNICATION 251

Sports Journalism

It covers both sports writing and sports broadcasting. Learn skills of reporting of competition and play-by-play coverage, communicating about sports through word and image, commentary, and interview skills.

3 semester hours

MASS COMMUNICATION 252

Introduction to Web Publishing

A comprehensive overview in planning, organizing and creating a web site. The course features emphasis on creative and communications imperatives in web page creation including design, layout, navigation and usability. Topics include web site types, structures, the importance of the home page, understanding screen real estate and how to use it effectively, white space, typography, titles and headlines, search engines and how to get listed and many other issues and topics related to effective web page creation.

3 semester hours

MASS COMMUNICATION 255

Sports Business and Marketing

This course provides an overview of major sports business issues. It covers professional, Olympic, collegiate sports, studies sports as a business, and discusses sports marketing, promotion, and sports sponsorships.

3 semester hours

MASS COMMUNICATION 260

Introduction to Film Studies

This course will help students develop a broad understanding of the various systems involved in filmmaking. They will adapt an analytical approach to film viewing in order to discover the range of meanings that are not readily apparent. The course focuses on key concepts of film aesthetics, form and style with the goal of informed critical analysis. It will look at the construction of film images, systems of film editing, film sound, and the varied modes of organizing these core elements. Students will define and analyze the cultural significance of various classics as well as modern and international films. By viewing and discussing films of different types and genres, students will demonstrate their knowledge through written assignments as well as exams and an oral presentation. Due to time constraints, in-class screenings will consist of select scenes. Students will be assigned full screenings to correspond with written assignments.

3 semester hours

MASS COMMUNICATION 262

Writing for Interactive Media

Understanding the Internet as an information vehicle and how the role of the writer is more than just creating strong text. This course offers discussion and hands-on work in the art and science of effective organization, preparation, writing and editing for the interactive media audience. Students learn to use a content management system that will help them maintain client and employer websites.

3 semester hours

MASS COMMUNICATION 270

Public Relations

An introduction to public relations. Current practices and problems, with emphasis on the role of the public relations practitioner as a specialist in communications, analyst of public opinion, and counselor to the major sponsors of public communication.

3 semester hours

MASS COMMUNICATION 272

Creating Digital Media

This hands-on laboratory course offers students work in building digital media projects. Students will explore new techniques and platforms and build portfolio worthy projects they can use when seeking employment. It is recommended that a student has taken MCOM218 or has a basic understanding of Photoshop.

3 semester hours

MASS COMMUNICATION 277

Broadcast TV and News

Broadcast TV and News provides students with a hands-on experience with the production facilities in an immersive lab environment. Students will learn to demonstrate their ability to conceive, illustrate, preproduce, produce, and broadcast a news show.

3 semester hours

MASS COMMUNICATION 284

Business and Professional Communications

Understanding and development of communications skills necessary for individuals to function effectively in business and corporate roles. Special consideration given to the verbal and nonverbal elements of the work situation: barriers to communications, listening skills, interviewing, instructional skills, forms of negotiation, technical reports, and principles of group behavior. Students' skills are assessed relative to the levels of communication required in various career areas and cultural milieus. Students output a resume, cover letter, and thank you letter for their dream job or internship. Extensive time is spent learning and rehearsing the answers to the most common interview questions.

3 semester hours

MASS COMMUNICATION 290

Intercultural Communication

Study of basic concepts, theories, and practices of intercultural communication, including elements of cultural systems, social identification and group relations, influence of culture, language and culture, nonverbal communication, intercultural negotiation, and intercultural conflict resolution. Intercultural communication as applied to interpersonal communication, group communication, organizational communication, public communication, and mass communication. Communication principles will be applied to intercultural interaction so that misunderstanding, prejudice, stereotypes, and discrimination can be reduced or eliminated.

3 semester hours

MASS COMMUNICATION 299

Mass Communication

Topics in Mass Communication

1-6 semester hours

MASS COMMUNICATION 306

Argumentation and Debate

Knowledge and practice in the craft of research and reasoning in argumentative communication. Practice in analysis, evidence, briefing, refutation, and delivery of arguments. Prerequisite: Mass Communication 110.

3 semester hours

MASS COMMUNICATION 323

Advertising Copywriting

Critical study and application of communication principles and concepts as applied to planning and preparing advertising messages. Writing and visualization for print, broadcast, and digital media. Prerequisite: Mass Communication 220.

3 semester hours

MASS COMMUNICATION 330

Advertising Media Planning

An investigation of various mass media audiences' characteristics, preferences and composition and how that information is obtained and used in planning media strategy in advertising. Topics include characteristics and evaluation of major media rates and sources of information; problems of coverage, duplication, costs and scheduling. Prerequisite: Mass Communication 220.

3 semester hours

MASS COMMUNICATION 333

TV Commercials

Study how advertising strategies are translated into creative briefs and message strategies that guide the creative process. Special consideration is given to the roles of TV commercials, the format elements of TV commercials, the advantages of TV commercials, the creative process of designing TV commercials, and the creation of TV commercials. Prerequisite: Mass Communication 220.

3 semester hours

MASS COMMUNICATION 339

Advertising and Public Relations Campaigns

A real-world, hands on experience where the class acts as an agency and produces a high-end, full-up advertising and public relations campaign for a client. There's in-depth analysis and practice in strategies and tactics employed in creating a campaign. Class yields an impressive array of traditional and digital collateral that students can use in their portfolios. Prerequisite: Mass Communication 220.

3 semester hours

MASS COMMUNICATION 341

Magazine and Feature Writing

An in-depth experience of writing for digital and traditional media. Focus is on the additional research and preparation needed for this writing genre. Principles of advocacy and rhetoric and their relevance in the news media are explored. Prerequisite: Mass Communication 235 or 240.

3 semester hours

MASS COMMUNICATION 342

Digital Project Management

Students work in teams to create and produce an original web site or extensively improve an existing one, working in conjunction with a real-world client. The work is performed in a real-life, deadline driven environment and will produce a portfolio piece for those entering the field of digital media. Students learn the roles and duties of those who work on interactive teams. Instructor's permission may be required for this course. Prerequisite: MCOM 252 Introduction to Web Publishing.

3 semester hours

MASS COMMUNICATION 346

Media Management

Examination of the internal functioning and management practices related to the various media institutions. Discusses management by objectives, work plans, analysis methods, budget-setting, research planning, message strategy and plans, media/channel strategy and plans, and evaluation methods related to communication activities. Emphasis is on developing integrated approaches to solving communication problems under changing environmental conditions.

3 semester hours

MASS COMMUNICATION 352

Advanced Web Publishing

This course sets out to define and apply advanced concepts of HTML and CSS scripting. Students will develop data driven sites incorporating scripting and advanced HTML concepts, combining technical skills with professional design approaches. Instructor's permission may be required for this course. Prerequisite: MCOM 252 Introduction to Web Publishing.

3 semester hours

MASS COMMUNICATION 354

Media, Sports, and Society

This course studies the relationship between

and among media, sports, and society. It examines media coverage of sports, the mediated sports culture, sports and politics, the spectators' enjoyment of sports violence, the dark side of competition, and gender and ethnicity issues in sports. Instructor's permission may be required for this course.

3 semester hours

MASS COMMUNICATION 355

Sports Psychology

A study of the psychological foundations of physical activity. An overview of the psychological and mental factors that influence and are influenced by participation and performance in sports, exercise and physical activity. Included are applications of the knowledge gained through research to everyday settings.

3 semester hours

MASS COMMUNICATION 360

Broadcast News Writing

Instruction and practice in the basics of writing news for broadcast media. Emphasis on broadcast style, specificity of language, time constraints and other considerations unique to traditional and digital radio and television news. Prerequisite: Mass Communication 235 or 240.

3 semester hours

MASS COMMUNICATION 357

The Portfolio Project

The semester is spent creating professional portfolios students can use to seek employment. This is a highly specialized, hands-on class where actual portfolios are created to help students obtain work in their specific area of interest—advertising, public relations, sports media, digital media, broadcast, non broadcast, production, and many more.

Prerequisites: Juniors and Seniors who already have portfolio pieces created from prior classes. Sophomores upon instructor's approval.

3 semester hours

MASS COMMUNICATION 370

Publicity Methods

A real-world, hands-on experience where the class acts as an agency and produces a high-end, full-up public relations campaign for a client that includes free and paid media. Students see a project through from the discovery phase through to the delivery of the campaign to the client. Class yields an impressive array of traditional and digital collateral that students can use in their portfolios. Prerequisite: Mass Communication 220.

Mathematics

3 semester hours

MASS COMMUNICATION 384

Organizational Communication

Communication in formal organizations, such as schools, industry, hospitals, and government, with emphasis on how organizational variables affect communication behavior of humans at work. Simulation, role-playing, case method, and videotape are used as techniques for evaluating personal and organizational effectiveness.

3 semester hours

MASS COMMUNICATION 390

Media Law and Ethics

Legal interpretations and standards of judgment that affect the reporter and the mass media. Theory of the First Amendment. Problems of libel, privacy, censorship, contempt, news source protection. Relationship of media regulations to community standards and social mores. Instructor's permission may be required for this course.

3 semester hours

MASS COMMUNICATION 395

Senior Seminar in Mass Communication

Emphasis on the analysis of mass media institutions, content, function, and policy. Problem-centered approach, requiring experimentation in media forms and journalistic inquiry. Prerequisite: Senior standing within the Department of Mass Communication.

3 semester hours

MASS COMMUNICATION 398

Internship

Professional, supervised work in an organization related to career goals. Prerequisite: Permission of department required.

3 semester hours

MASS COMMUNICATION 399

Independent Study

Advanced project not covered by a regular course offering. Term paper or other academic fulfillment project is required. Faculty sponsor must be secured in advance. Prerequisite: Permission of the department and school director is required.

By arrangement; 1-6 semester hours

Mathematics

MATHEMATICS 102

Nature of Mathematics

A survey course of mathematics drawn from areas of algebra, logic, sets, geometry, com-

binatorics, probability and statistics. Includes applications of mathematics and the use of logical and quantitative reasoning.

3 semester hours

MATHEMATICS 103

Introduction to College Algebra

An introductory course of essential algebra and statistics concepts intended for liberal arts and health and social sciences students, as well as STEM students who would benefit from review prior to college algebra. The first portion of the course discusses algebraic expressions, polynomials, and equations and inequalities; the second introduces the student to the data collection and measurement common in many modern situations and to elementary descriptive and inferential statistical techniques.

3 semester hours

MATHEMATICS 106

College Algebra

An intermediate algebra course intended primarily for students in STEM degree programs that require pre-calculus and beyond. The curriculum focuses on operations with and manipulation of polynomial, rational, logarithmic and exponential functions and the application of techniques for solving higher-degree polynomials and systems of equations and inequalities, including the use of matrices and determinants.

3 semester hours

MATHEMATICS 109

Precalculus Mathematics

A rigorous course for those intending to study calculus at the university level. The course focuses on trigonometry, as well analytic geometry, conic sections, limits, introduction to derivatives, and the applications of these mathematical skills in modeling of real-life situations. Prerequisite: "C+" or better in MATH 106 or Mathematics Placement Exam.

Offered: Spring/Summer/Fall

4 semester hours

MATHEMATICS 110

Calculus and Analytic Geometry I

Review of functions. Limits and continuity of functions. Composite functions. Definition of the derivative. Derivatives of algebraic and trigonometric function. Rules for differentiation; sum rule, difference rule, product rule, quotient rule, chain rule. Rolle's Theorem and the Mean Value Theorem. Applications of the

derivative; equations of motion, linear approximation of functions, error analysis, topics from geometry, maxima and minima of functions, curve sketching, related rates. Antidifferentiation and the indefinite integral. Fundamental Theorem of Calculus. Definite integrals. Integration by substitution. Applications of integration. Areas and volumes. Prerequisite: Mathematics 109; minimum grade C+.

Offered: Spring/Summer/Fall

4 semester hours

MATHEMATICS 112

Calculus and Analytic Geometry II

Derivatives and integrals involving exponential and logarithmic functions. Inverse trigonometric functions. Hyperbolic functions. L'Hopital's rule. Techniques of integration including substitution method, integration by parts, partial fraction expansions, approximate integration and use of integral tables. Parametric equations. Polar coordinates. Improper integrals. Infinite sequences and series. Taylor and MacLaurin series. Applications to geometry, engineering and physics. Prerequisite: Mathematics 110; minimum grade C.

Offered: Spring/Summer/Fall

4 semester hours

MATHEMATICS 200

Mathematics Cooperative Work Study

Students entering the Mathematics Cooperative Education Program take this course each semester that they are employed full-time in paid work assignments. A written report will be required describing achievements resulting from the work experience. Prerequisite: Completion of at least 30 semester hours and permission of the Department.

Offered: Spring/Summer/Fall

1 semester hour with a maximum of 6 semester hours to be applied to the degree

MATHEMATICS 203

Elementary Statistics

A non-calculus introduction to applied descriptive and inferential statistics for business, health sciences, and social sciences students. Starting from the definition of data the course investigates measures of center and dispersion, frequency distributions, the use of probability theory to construct confidence intervals and perform significance tests, and elementary linear regression and correlation.

3 semester hours

Mathematics

MATHEMATICS 203B

Biostatistics Applications

A two hour lab to be taken concurrently with Math 203(Statistics) that will teach students how to design experimental robust experiments, analyze data, and interpret the results. Biomedical applications will be emphasized. Prerequisite: Mathematics 203; minimum grade C.

Offered: Spring/Fall only

1 semester hour

MATHEMATICS 203HS

Biostatistics

Biostatistics provides an introduction to selected important topics in biostatistical concepts and reasoning. This course represents an introduction to the field and provides a survey of data and data types. Specific topics include tools for describing central tendency and variability in data; methods for performing inference on population means and proportions via sample data; statistical hypothesis testing and its application to group comparisons; issues of power and sample size in study designs; and random sample and other study types. While there are some formulae and computational elements to the course, the emphasis is on interpretation and concepts. Prerequisite: Mathematics 203; minimum grade C. Corequisite: Mathematics 203.

Offered: Spring/Fall only

1 semester hour

MATHEMATICS 214

Linear Algebra

System of linear equations and matrix algebra, determinants, vector spaces, eigenvectors, linear transforms and inner product spaces. Prerequisite: Mathematics 110; minimum grade C.

Offered: Spring only

3 semester hours

MATHEMATICS 215

Calculus and Analytic Geometry III

Vectors; two and three-dimensional vector spaces, Cartesian coordinates, scalar and vector product, triple products, normal vectors and curvature, tangential vectors. Partial differentiation; functions of several variables, linear approximations, extrema of surfaces, Lagrange multipliers. Vector calculus and analytic geometry, gradient of a scalar function, divergence and curl of vector functions. Coordinate systems; spherical and cylindrical coordinates. The Jacobian of transformation. Multiple integrals in Cartesian and other coordinate systems. Areas and volumes. Stoke's

Theorem and Green's Theorem. Prerequisite: Mathematics 112; minimum grade C.

Offered: Spring/Summer/Fall

4 semester hours

MATHEMATICS 227

Discrete Structures

This course is an introduction to some of the discrete mathematical structures relevant to computer science, including set theory, propositional calculus, predicate calculus, algebraic operations and relations, counting techniques and graph theory. Required of Math majors. Identical to Computer Science 227. Prerequisite: Mathematics 109; minimum grade C.

Offered: Spring/Fall only

3 semester hours

MATHEMATICS 281

Differential Equations

A course in ordinary differential equations (ODEs). Classification of ODEs. Existence and uniqueness theorems. Solution of first and second order linear ODEs. Nonlinear, exact, homogeneous and higher order ODEs. Power series and Laplace transform solutions. System of ODEs. Applications include topics in the physical, natural and social sciences, engineering, finance and ecology. Prerequisite: Mathematics 112; minimum grade C.

Offered: Spring only

3 semester hours

MATHEMATICS 314

Numerical Methods

A first course dealing with basic numerical methods for finding roots of non-linear equations, interpolation theory, approximation of functions, numerical integration and differentiation, numerical solutions of systems of linear equations, the matrix eigenvalue problem and the numerical solutions of ordinary differential equations. Prerequisite: Mathematics 112; minimum grade C.

Offered: Fall only

3 semester hours

MATHEMATICS 319

Introduction to the Theory of Numbers

Fundamental properties of integers, divisibility, primes. Algorithms and factorization. Congruence and diophantine equations. Number theoretic functions. Order and primitive roots. Elementary results on the distribution of primes. Applications in cryptography. Prerequisite: Mathematics 215; minimum grade C.

Offered: Fall only

3 semester hours

MATHEMATICS 323

Probability and Statistics I

Classical theory of probability. Sample spaces, probability and conditional probability, random variables and their distributions. Standard discrete distributions, normal distributions, moment generating functions and central limit theorems. Prerequisite: Mathematics 112; minimum grade C.

Offered: Fall only

3 semester hours

MATHEMATICS 324

Probability and Statistics II

Continuation of Math 323 Probability and Statistics I. Statistical theory. Topics include: sampling distributions, estimation, Hypothesis testing, confidence intervals, regression, and if time permits, analysis of variance.

Offered: Spring only

3 semester hours

MATHEMATICS 351

Advanced Analysis for Scientists & Engineers I

Matrix algebra and the eigenvalue problem. Fourier series, integrals and transforms. Partial differential equations. Sturm-Liouville Systems and orthogonal functions. Bessel, Legendre, Gamma, Dirac-delta and other special functions. Applications to various areas of science and technology. Prerequisites: "C" or better in MATH 281 (Differential Equations) and MATH 215 (Multivariable Calculus) or permission of the instructor.

3 semester hours

MATHEMATICS 380

Selected Topics in Mathematics

Selected topics such as calculus of variations which are not currently in other Mathematics courses. Topics will vary from semester to semester. May be taken more than once for credit when topics are different. Permission of instructor is required.

1-3 semester hours

MATHEMATICS 391

Modern Algebra

Set theory, including the concepts of mapping and denumerable and non-denumerable sets. Study of abstract structures such as groups, rings, fields and algebras. Required of mathematics majors. Prerequisite: Mathematics 215; minimum grade C.

Offered: Spring only

1-3 semester hours

MATHEMATICS 399

Independent Study

Mechanical Engineering

Advanced work in areas of mathematics under the supervision of a department faculty member. Prerequisite: Permission of Division Director.

1-3 semester hours

MATHEMATICS 401

Advanced Analysis for Scientists and Engineers I

Partial differential equations, Bessel functions, Legendre polynomials. Fourier series, boundary and initial value problems, topics in vector analysis, tensor analysis. Prerequisite: Mathematics 301 (Differential Equations); minimum grade C.

3 semester hours

MATHEMATICS 407

Introduction to Modern Analysis

Metric Spaces, sequences and series, continuity differentiation, Riemann-Stieltjes integral, functions of several variables. Prerequisite: Mathematics 215; minimum grade C.

3 semester hours

MATHEMATICS 423

Mathematical Statistics

Probability theory, discrete and continuous distributions, transformations, moment generating functions, characteristic functions, central limit theorem, sampling distributions.

3 semester hours

MATHEMATICS 423B

Biostatistics Lab

Statistical analysis with application to biological science. Includes applications of probability, classifications of data, averages, dispersion, frequency distributions, confidence intervals, tests of significance, linear regression, and correlation. Prerequisite: Mathematics 323 or equivalent. May be taken concurrently.

1 semester hour

MATHEMATICS 480

Selected Topics

Selected topics which are not currently in other Mathematics courses. Topics will vary from semester to semester. May be taken more than once for credit when topics are different. Permission of instructor is required.

1-3 semester hours

3 semester hours

Mechanical Engineering

MECHANICAL ENGINEERING 112

Engineering Graphics and CAD

This course provides an introduction to engi-

neering graphics and visualization including engineering drawing and 3-D solid modeling with a computer aided design (CAD) package. Topics include the design process, multiview projection and sectioning, dimensioning, tolerancing, and working drawings.

2 lecture hours; 1 three-hr lab; 3 semester hours

MECHANICAL ENGINEERING 200

Undergraduate Co-op/Internship in Mechanical Engineering

By arrangement.

1-3 semester hours

MECHANICAL ENGINEERING 203

Thermodynamics

This course introduces principles of thermodynamics, properties of ideal gases and water vapors, first and second laws of thermodynamics, and entropy. Applications of thermodynamic analysis in engineering applications.

Prerequisites: Mathematics 112, Chemistry 103. Co-requisite: Mathematics 215.

3 semester hours

MECHANICAL ENGINEERING 223

Materials Science for Engineers

A study of the properties of materials of importance to engineers. Structure-property-processing relationships. Mechanical, physical and electrical properties of metals, ceramics and polymers.

Prerequisite: Chemistry 103.

3 semester hours

MECHANICAL ENGINEERING 250

Engineering Mechanics: statics

This course utilizes vector algebra and free body diagrams to solve problems in engineering statics. The topics include vector algebra of forces and moments, free body diagrams, equilibria of particles and rigid bodies, internal forces in trusses and frames, centroids and centers of gravity, internal forces in trusses and frames, friction and applications to machines, and moments of inertia.

Prerequisites: Mathematics 112, Physics 207.

3 semester hours

MECHANICAL ENGINEERING 252

Engineering Mechanics: Dynamics

This course is designed to teach kinematics and kinetics of particles and rigid bodies. Newton's laws of motion, work-energy, and impulse-momentum are studied and applied to practical engineering problems.

Prerequisites: Mechanical Engineering 250,

Mathematics 215

3 semester hours

MECHANICAL ENGINEERING 303

Applied Thermodynamics

This course applies thermodynamics principles to the analysis of power generation, refrigeration, and air-conditioning systems. The topics include: gas and vapor power cycles, refrigeration and heat pump cycles, properties of gas mixtures and psychrometrics, exergy, combustion, and chemical equilibrium. Graduate equivalent: MEEG 462.

Prerequisites: Mechanical Engineering 203

3 semester hours

MECHANICAL ENGINEERING 305

System Dynamics and Control

This course is an introduction of mathematical modeling of dynamic systems with mechanical, thermal, hydraulic, and electrical elements. Modeling techniques based on physical principles are used to generate system transfer functions. Analytical and computer simulations are used to study system behaviors. Topics include transient response analysis, frequency response analysis, stability, and feedback control design. Graduate equivalent: MEEG 405.

Prerequisites: Mechanical Engineering 252, Mathematics 281, Electrical Engineering 233, Electrical Engineering 235

3 semester hours

MECHANICAL ENGINEERING 307

Fluid Mechanics

This course introduces the fundamentals of fluid mechanics and explores the topics of fluid statics, buoyancy, key properties which affect fluid motion, fluid flow regimes, governing equations, empirical and analytic methods of internal and external flows.

Prerequisites: Mechanical Engineering 203, Mechanical Engineering 252, Mathematics 215, Mathematics 281

3 semester hours

MECHANICAL ENGINEERING 310

Mechanics of Materials

This course introduces the concepts of stress, deformation and strain in solid materials. Topics include stress and strain analysis applied to beams, vessels, and pipes; combined loading; stress and strain transformations; bending stresses and shear stresses in beams; column buckling.

Prerequisites: Mechanical Engineering 250

3 semester hours

MECHANICAL ENGINEERING 315

Mechanical Vibrations

Mechanical Engineering • Medical Laboratory Science

This course covers vibration analysis of single and multi-degree-of-freedom systems as well as continuous systems, including both damped and undamped free and forced vibration.

Pre-requisite: Mathematics 281, Mechanical Engineering 252, Mechanical Engineering 310.
3 semester hours

MECHANICAL ENGINEERING 350

Machine Design

This course covers part modeling, selection, and engineering analysis of machine components to design structural frame, bearings, supporting beam, shafts, springs, gears, fasteners, and other elements in a machinery and mechanical systems.

Prerequisites: Mechanical Engineering 112, Mechanical Engineering 252, Mechanical Engineering 310.

3 semester hours

MECHANICAL ENGINEERING 361

Senior Design Project I

The first part of the senior design project, which covers topics of product design and development process. Design project proposals, computer-aided design, analysis, and modeling of an open-ended engineering design problem. Development and presentation of conceptual designs.

Prerequisites: Mechanical Engineering 363, Mechanical Engineering 350.

3 semester hours

MECHANICAL ENGINEERING 362

Senior Design Project II

The second part of the senior design project, which covers topics of product design and development process. Development of a working design started in the previous semester using computer-aided design, analysis, modeling, and optimization methods and manufacture a prototype of the final design.

Prerequisites: Mechanical Engineering 361

3 semester hours

MECHANICAL ENGINEERING 363

Heat Transfer

This course introduces heat transfer principles and their applications in a wide range of engineering applications. The three fundamental modes of heat transfer are studied in detail: conduction (steady-state and transient) convection (forced and natural) and radiation. Basic concepts such as Fourier's Law, Newton's Law of Cooling and the Stefan-Boltzmann Law are presented as well as analytic, empirical and numerical methods of solution. Key properties which affect the rate of heat transfer such as

the heat transfer coefficient, thermal conductivity and emissivity are examined.

Prerequisites: Mechanical Engineering 307
3 semester hours

MECHANICAL ENGINEERING 369

Thermal Fluid Systems Design

This course integrates thermodynamics, fluid mechanics and heat transfer through application to the design of various thermal systems comprised of several components requiring individual analyses. Emphasis on modeling, analysis, and design of engineering systems and components with state-of-the-art computer software. Graduate equivalent: MEEG 469.

Prerequisites: Mechanical Engineering 307, Mechanical Engineering 363

3 semester hours

MECHANICAL ENGINEERING 372

Manufacturing Processes

This course covers major manufacturing processes for engineering materials, including casting, forming, cutting, joining, and molding. It also studies manufacturing considerations in design, including material considerations, process selection, machine tools, product quality, and automation.

Prerequisites: Mechanical Engineering 310
3 semester hours

MECHANICAL ENGINEERING 380

Mechanical Measurement and Data Analysis

The course introduces the fundamentals of basic instrumentation, experimental measurement and data analysis used in mechanical engineering. In addition to instrument use and the planning and execution of experiments, the topics of calibration, precision, sampling, accuracy and error are included. Special focus is given to the preparation of technical reports. Prerequisites: Mechanical Engineering 305, Co-requisite: Mathematics 323.

2 lecture hours; 1 three hour laboratory; 3 semester hours

MECHANICAL ENGINEERING 381

Mechanical Engineering Systems Lab

This course is the application of measurement techniques developed in MEEG 380 to various mechanical systems and processes. Emphasis is on data acquisition, reduction, analysis, and report preparation.

Prerequisites: Mechanical Engineering 380, Mechanical Engineering 363, Mathematics 323
2 lecture hours; 1 three hour laboratory; 3 semester hours

MECHANICAL ENGINEERING 399

Independent Study in Mechanical Engineering

Independent study of advanced topics in Mechanical Engineering. Problem assignment to be arranged with and approved by the department.

3 semester hours

Medical Laboratory Science (MLSC)

MEDICAL LABORATORY SCIENCE 301

Phlebotomy

Introduction to the theory and practice of phlebotomy and laboratory safety. Pre-analytical, analytical and post analytical components of laboratory service. Introduction to the principle and practice of quality assurance and quality improvement.

Offered: Spring/Fall only

2 Semester hours

MEDICAL LABORATORY SCIENCE 301

Phlebotomy Lab

Introduction to the practice of phlebotomy and laboratory safety. Pre-analytical, analytical and post analytical components of laboratory service. Introduction to the principle and practice of quality assurance and quality improvement.

Offered: Spring/Fall only

1 Semester hour

MEDICAL LABORATORY SCIENCE 310

Intro to Hematology

Lecture/laboratory course that emphasizes basic hematologic principles. Manual and automated procedures are performed. Emphasis on morphology and clinical applications. The course includes hemostasis and components in the blood related to hemostatic mechanisms. Includes principles of procedures involved and their relationship to diagnosis and treatment of disease. Prerequisite: BIOL 102 or 213. Recommend MLSC 315 or BIOL 114 as a prerequisite for Biology majors.

Offered: Spring/Fall only

2 semester hours

MEDICAL LABORATORY SCIENCE 310

Intro to Hematology Lab

This course will provide an extensive orientation to a hematology laboratory and include a more extensive component for coagulation and body fluid microscopic examination. Students will use this material as a pre-requisite to clinical rotations. Prerequisite: MLSC 315, BIOL 102, 211 or 113, or 213. Lab fee assessed.

Offered: Spring/Fall only

Medical Laboratory Science

1 semester hour

MEDICAL LABORATORY SCIENCE 311

Intro to Clinical Chemistry

Lecture/laboratory course focusing on the methods of analysis for routine and specialized clinical chemistry analytes. Emphasis on the lab math, statistics, and quality control procedures as they relate to the clinical laboratory. Prerequisite: CHEM 380 with a C or better.

Offered: Spring/Fall only

2 semester hours

MEDICAL LABORATORY SCIENCE 314

Intro to Immunohematology

Lecture/laboratory course emphasizing immunohematologic concepts and properties underlying scientific principles of blood banking. Includes theory and practical applications of blood-group systems, antibody identification and compatibility testing, hemolytic disease of the newborn, autoimmune hemolytic anemia, and donor testing introduction to procurement and processing. Prerequisite: BIOL 341 or MLSC 341. Lab fee assessed.

Offered: Spring/Fall only

2 semester hours

MEDICAL LABORATORY SCIENCE 315

Fundamentals of Medical Laboratory Science

This is a lecture/laboratory course that provides an overview of all of the clinical laboratory testing areas. Topics include Clinical Chemistry, Hematology, Immunohematology (Blood Bank), Microbiology and Urinalysis. Students will perform manual testing for each area as is applicable. Pre-requisite: BIOL 102. Lab fee assessed.

Offered: Spring/Fall only

3 semester hours

MEDICAL LABORATORY SCIENCE 317

Mycology/Parasitology/Virology

Overview of medically significant fungi, parasites, and viruses. Emphasis will be placed on pathogenesis, modes of transmission, and identification. Laboratory techniques used in isolation, cultivation, and identification will be used. Also included will be discussions of epidemiology and host response regarding these microorganisms. Prerequisite: BIOL 320. Lab fee assessed.

Offered: Spring only

4 semester hours

MEDICAL LABORATORY SCIENCE 320

Pre-Clinical Seminar

An introduction to the standards, ethics, and

current professional issues in clinical laboratory science are examined. Students are advised about the requirements of their clinical rotations and prepare their applications for placement. Students are prepared for the successful completion of the clinical readiness examination.

Offered: Spring/Fall only

1 semester hour

MEDICAL LABORATORY SCIENCE 321

Clinical Seminar I

Educational methodology, including objective and examination, writing and item analysis curriculum design and evaluation of cognitive, affective and psychomotor domains. Addresses accreditation, certification and licensure related issues, and dynamics of the health care delivery system as it relates to the clinical laboratory and services.

Offered: Spring/Fall only

1 semester hour

MEDICAL LABORATORY SCIENCE 322

Clinical Seminar II

Introduction to human resource and financial management, lab operations including critical pathways and clinical decision making, performance improvement, lab information systems (LIS), personnel management and financial management of a clinical laboratory. Includes advanced principles and practices of quality assurance and quality improvement, career advancement and planning, and professionalism.

Offered: Spring/Fall only

1 semester hour

MEDICAL LABORATORY SCIENCE 332

Medical Microbiology

Focuses on the study of infectious disease processes; the biology of pathogenic microorganisms; the etiology, pathology, diagnosis and epidemiology of viral and bacterial disease. Must be taken with MLSC 332L.

Pre-requisite BIOL 320 with a C or better.

Offered: Fall only

3 semester hours

MEDICAL LABORATORY SCIENCE 332L

Medical Microbiology Lab

This course is taught in conjunction with the BIOL 332 Medical microbiology course; the laboratory section is open to MLS majors and focuses on techniques used for the identification of microorganisms in a clinical laboratory. Pre-requisite BIOL 320 with a C or better. Lab fee assessed.

Offered: Fall only

1 semester hour

MEDICAL LABORATORY SCIENCE 341

Immunology

Consideration of the basic principles and concepts of the mechanics of immunity and the relation of immunological phenomena to biological problems. This course is taught in conjunction with MLSC 341L immunology lab course. Prerequisite BIOL 211 or BIOL 213/214 with a C or better.

Offered: Spring/Fall only

3 Semester hours

MEDICAL LABORATORY SCIENCE 341L

Immunology Lab

Laboratory section taught in conjunction with MLSC 341. This course is devoted to the immunologic and serologic techniques utilized in a clinical laboratory. Pre-requisite BIOL 211 or 213/214 with a C or better. Lab fee assessed.

Offered: Spring/Fall only

1 Semester hour

MEDICAL LABORATORY SCIENCE 350

Advanced Hematology

Lecture focusing on advanced principles of hematologic testing leading to improved interpretative skills in hematology. Emphasis on correlation of data with disease states and disorders. Case studies and discussion used to illustrate the pathophysiology of hematological dysfunction. Prerequisite: MLSC 310L with a C or better.

Offered: Spring/Fall only

3 semester hours

MEDICAL LABORATORY SCIENCE 354

Advanced Immunohematology

Lecture/laboratory focusing on problem-solving and special techniques used in antibody identification and compatibility testing. Also includes a discussion of donor requirements, blood component preparation and therapy, and quality assurance in the blood bank/transfusion service. Prerequisite: MLSC 314 with a C or better.

Offered: Spring/Fall only

2 semester hours

MEDICAL LABORATORY SCIENCE 355

Advanced Clinical Chemistry

Lecture focusing on the interpretation, clinical significance, and associated disease states of routine and specialized clinical chemistry tests. Newer testing methods used to identify diseases/disorders will be discussed. Prerequisite: MLSC 311 with a C or better.

Medical Laboratory Science • Music

Offered: Spring/Fall only
2 semester hours

MEDICAL LABORATORY SCIENCE 380

Phlebotomy Clinical Rotation

Performance and observation of various phlebotomy techniques in potentially both inpatient and outpatient settings. Pre-requisite: MLSC 301 and 301L.

Offered: Spring/Fall only
2 semester hours

MEDICAL LABORATORY SCIENCE 382

Clinical Hematology Laboratory Rotation

Automated and manual methods of cell counting and differentiation are performed on blood and other body fluids. Instruction and experience in advanced instrumentation using automated cell counters and differential systems, coagulation and platelet analyzers, and special hematologic testing of white and red cells using cytochemistry techniques are provided to identify disease states and disorders. Prerequisite: successful completion of MLSC 310/310L with C or better and successful completion of the clinical readiness examination.

Offered: Spring/Fall only
4 semester hours

MEDICAL LABORATORY SCIENCE 383

Urinalysis and Body Fluids

This course gives an opportunity for the student to pursue individual study in their field of interest under the supervision of a specialist during a clinical rotation at an affiliate hospital laboratory. This course provides didactic materials to complement the clinical rotation experience.

Prerequisite: Permission of instructor or department chair

Offered: Spring/Fall only; distance learning
1 semester hour

MEDICAL LABORATORY SCIENCE 384

Clinical Chemistry Laboratory Rotation

Provides an opportunity to apply chemical and immunologic theory and practice to routine and special clinical chemistry procedures, toxicology, therapeutic drug monitoring, and urinalysis. Also includes immunologic procedures. Includes instruction and experience in the use, standardization, and maintenance of sophisticated laboratory analyzers. Prerequisite: MLSC 311 with a C or better and successful completion of the clinical readiness examination.

Offered: Spring/Fall only
5 semester hours

MEDICAL LABORATORY SCIENCE 385

Clinical Microbiology Laboratory Rotation

Isolation and identification of clinically important bacteria, mycobacteria, and fungi including antibiotic susceptibility testing. Techniques for identifying parasites are included. Prerequisite: MLSC 332 with a C or better and successful completion of the clinical readiness examination.

Offered: Spring/Fall only
4 semester hours

MEDICAL LABORATORY SCIENCE 386

Clinical Immunohematology Laboratory Rotation

Blood typing, antibody screening and identification, compatibility testing, and other immunohematologic procedures are included. Emphasis is on operation and problem-solving in a modern transfusion service. Prerequisite: MLSC 314 with a C or better and successful completion of the clinical readiness examination.

Offered: Spring/Fall only
3 semester hours

MEDICAL LABORATORY SCIENCE 388

Clinical Correlation (Clinical)

Use of problem-based case studies to analyze clinical situations and correlate laboratory data. Prerequisite: Successful completion of the clinical readiness examination.

Offered: Spring/Fall only
2 semester hours

MEDICAL LABORATORY SCIENCE 393

Clinical Research

A review of qualitative and quantitative research methods and statistics resulting in the completion of a clinical based technical or educational based research paper.

Offered: Spring/Fall only
1 semester hour

MEDICAL LABORATORY SCIENCE 399

Independent Study

An opportunity for the student to pursue individual study in their field of interest under the supervision of a specialist. Prerequisite: Permission of instructor and the Department Chair.

1-6 semester hours

MEDICAL LABORATORY SCIENCE 399-WA2

Molecular (as needed)

Online theory course about molecular techniques. Prerequisite: BIOL 102 with a C or better.

1 semester hour

MEDICAL LABORATORY SCIENCE 399

Independent Study

An opportunity for the student to pursue individual study in their field of interest under the supervision of a specialist. Prerequisite: Permission of instructor and the Department Chair.

1-6 semester hours

MEDICAL LABORATORY SCIENCE 410

Advanced Hematology

Lecture/laboratory focusing on advanced principles of hematologic testing leading to improved interpretative skills in hematology. Emphasis on correlation of data with disease states and disorders. Case studies and discussion used to illustrate the pathophysiology of hematological dysfunction. Prerequisite: MDTCH 310 with a C or better.

2 Semester hours

MEDICAL LABORATORY SCIENCE 411

Advanced Clinical Chemistry

Lecture/laboratory focusing on clinical significance and methodology of trace elements, vitamins, therapeutic drug monitoring, and toxicology. Newer testing methods used to identify diseases/disorders will be discussed. Emphasizes instrument selection and method validation process. Prerequisite: MLSC 311 with a C or better.

2 Semester hours

MEDICAL LABORATORY SCIENCE 414

Advanced Immunohematology

Lecture/laboratory focusing on problem-solving and special techniques used in antibody identification and compatibility testing. Also includes a discussion of donor requirements, blood component preparation and therapy, and quality assurance in the blood bank/transfusion service. Prerequisite: MLSC 314 with a C or better.

2 Semester hours

MEDICAL LABORATORY SCIENCE 420

Clinical Hematology Rotation

Automated and manual methods of cell counting and differentiation are performed on blood and other body fluids. Instruction and experience in advanced instrumentation using automated cell counters and differential systems, coagulation and platelet analyzers, and special hematologic testing of white and red cells using cytochemistry techniques are provided to identify disease states and disorders. Prerequisite: MLSC Successful completion of MLSC 310 with C or better. and successful completion of the clinical readiness examination.

4 Semester hours

Music

MEDICAL LABORATORY SCIENCE 421

Clinical Chemistry Rotation

Provides an opportunity to apply chemical and immunologic theory and practice to routine and special clinical chemistry procedures, toxicology, therapeutic drug monitoring, and urinalysis. Also includes immunologic procedures. Includes instruction and experience in the use, standardization, and maintenance of sophisticated laboratory analyzers. Prerequisite: MLSC 311 with a C or better and successful completion of the clinical readiness examination.

5 Semester hours

MEDICAL LABORATORY SCIENCE 422

Clinical Microbiology Rotation

Isolation and identification of clinically important bacteria, mycobacteria, and fungi including antibiotic susceptibility testing. Techniques for identifying parasites are included. Prerequisite: MLSC 332 with a C or better and successful completion of the clinical readiness examination.

4 Semester hours

MEDICAL LABORATORY SCIENCE 424

Clinical Immunohematology Rotation

Blood typing, antibody screening and identification, compatibility testing, and other immunohematologic procedures are included. Emphasis is on operation and problem-solving in a modern transfusion service. Prerequisite: MLSC 314 with a C or better and successful completion of the clinical readiness examination.

3 Semester hours

MEDICAL LABORATORY SCIENCE 431

Clinical Correlations

Use of problem-based case studies to analyze clinical situations and correlate laboratory data. Prerequisite: Successful completion of the clinical readiness examination.

2 Semester hours

MEDICAL LABORATORY SCIENCE 432

Clinical Research

A review of qualitative and quantitative research methods and statistics resulting in the completion of a clinical based technical or educational based research project.

1 Semester hour

Music

Private Lessons

APPLIED MUSIC 100/400

Private Instruction

Private instrumental/vocal lessons are available by arrangement. One credit per semester will be given for ten half-hour lessons. Two credits per semester will be given for ten one-hour lessons. Since lessons are one-on-one, an additional fee applies. Applied Music may be repeated for credit each semester. Prerequisite: Open to non majors or minors with permission of Program Director. Available instruments include bass, cello, clarinet, composition, conducting, drumset, flute, horn, jazz guitar, jazz piano, jazz voice, music technology (advanced), oboe, piano, percussion, saxophone, tabla, theory, trumpet, trombone, violin, viola, and voice.

1-2 semester hours

Music

MUSIC 109

Music Theory I

A thorough exploration of music fundamentals: principles of notation, clefs, time signatures, musical terms, rhythmic concepts, scales, keys, triads, and seventh chords. Application of these fundamentals is emphasized through study of musical literature.

3 semester hours

MUSIC 109A & 110A

Aural Theory I & II

Development of aural skills beginning with fundamentals, including interval, scale, and triad recognition; solfège, sight-singing, sight-reading, and dictation.

1 semester hour

MUSIC 110

Music Theory II

The study of species counterpoint as a tool to inform analysis, improvisation, performance, and composition. First through fourth species are studied in two and three voices.

3 semester hours

MUSIC 121

Music Appreciation

A basic course in the elements of music and their historical application in Western music. Active listening and student participation is emphasized.

3 semester hours

MUSIC 122

Music in the Liberal Arts

This course explores the influences of music on and from fields such as literature, mathematics, religion, business, and psychology. It is designed to develop a passion for creative sounds through phonocentric skills developed in class, extensive reading, and written assignments that reflect a learned use of musical vocabulary.

3 semester hours

MUSIC 123

Song Logic

A continuation and development of skills learned in MUSC 122 (which is a prerequisite). Students will assimilate intermediate level analytical techniques as applied to popular music. Students will learn how some albums are assembled as concept albums using techniques developed by composers in 19th century song cycles. Students will develop an analytical portfolio.

3 semester hours

MUSIC 124

Introduction to World Music

Music is a universal human practice. This course provides an introduction to the diverse musical traditions of the world, and to thinking about music from an ethnomusicological perspective. Folk, popular, and composed music from multiple regions is studied in terms of structure, performance practice, social use, and cultural significance.

3 semester hours

MUSIC 137 & 138

Beginning & Intermediate Music Production

In this course, students will learn to use the digital audio workstation Pro Tools to effectively record, edit, and produce original music and/or arrangements. Pro Tools is widely used by audio professionals for music recording, editing, and production.

3 semester hours

MUSIC 201 & 202

Masterworks of Music I & II

Designed to increase knowledge of musical literature and to refine awareness of musical patterns and syntax. Representative works are analyzed and compared.

3 semester hours

MUSIC 203

Music History I

The historical development of music and musical styles from ancient Greece to the end of the

Music

Baroque era. <i>3 semester hours</i>	four-part writing. <i>3 semester hours</i>	Development of basic keyboard skills in a group setting. <i>3 semester hours.</i>
MUSIC 204 Music History II The historical development of music and musical styles during the Classical and Romantic periods. <i>3 semester hours</i>	MUSIC 215A & 216A Aural Theory III & IV More advanced development of aural skills, including interval, scale, and triad recognition, solfège, sight-singing, sight-reading, harmonic analysis, and dictation. <i>1 semester hour</i>	MUSIC 395 Senior Recital Student prepares and performs a recital of approximately thirty to forty-five minutes of solo and small ensemble repertoire, providing a printed program and program notes, as a public demonstration of skills and knowledge developed throughout their collegiate music study. <i>1 semester hour.</i>
MUSIC 205 Music History III An examination of the varied music produced from the late nineteenth century into the twenty-first, including influential works and major composers. Connections will be made to relevant historical, cultural, and philosophical developments. Prerequisite: MUSC 122, MUSC 203 and 204, or permission of the instructor. <i>3 semester hours</i>	MUSIC 216 Music Theory IV Introduction to the harmonic practices of the nineteenth and early twentieth centuries in Western music, with an emphasis on chromaticism and large scale formal considerations. Examples from the repertoire will be studied. <i>3 semester hours.</i>	MUSIC 398 Internship Professional, supervised, unpaid work experience in an organization related to the student's career goals in music. Permission of program director required. <i>1 semester hour</i>
MUSIC 207 History of Jazz A study of the periods of jazz, jazz performers and composers, trends, influences, stylistic features, and related materials. <i>3 semester hours</i>	MUSIC 220 Vocal Diction Study of IPA and vowel and consonant production required for singing in Italian, German, French and English. Specific application to the song and operatic literature. <i>3 semester hours</i>	MUSIC 399 Independent Study Specialized advanced projects in subjects not covered by course offerings. Conferences with designated Independent Study advisor. Permission of program director required. <i>1-3 semester hours</i>
MUSIC 208A & 208B Jazz Improvisation and Repertoire I & II Study of jazz improvisation through the study of harmony and style. Students analyze and transcribe solos. Prerequisites: MUSC 109 & 110. <i>3 semester hours.</i>	MUSIC 230X Music of the Global South This course centers around Indigenous musical traditions of the Global South (non-Western cultures), many of which have evolved and flourished without the use of written notation (sheet music). What might it mean to let go of Western understandings of musical structure as we interpret and experience the music of the Global South? Through listening, embodying, and performing, we will delve into music-making processes that celebrate Indigenous voices, instruments, and musical practices. <i>3 semester hours</i>	Ensembles
MUSIC 209 Business of Music Practical knowledge of skills necessary to function and flourish as a professional musician. Standard business models for private studio teaching, not-for-profits, performing contracts, artist management, recording and publishing. <i>3 semester hours</i>	MUSIC 235X History and Performance of the Steel Band In this course students will participate in both seminar and ensemble sessions. In the seminar portion of the course, classes will consist of discussion of reading and listening materials that will detail the cultural and political circumstances that created the space for steel pan culture to develop in Trinidad and Tobago during the 20th century. Students will also participate in learning the steel pan art form through traditional rote learning methods, as well as standard notation arrangements. <i>3 semester hours</i>	MUSIC 103 University Singers The University Singers is an unauditioned, mixed-voice chorus open to all members of the University community. It performs music ranging the complete breadth of choral repertoire at concerts and University functions. <i>1 semester hour.</i>
MUSIC 213 & 214 Songwriting I & II Students will compose songs in various commercial and popular idioms, with assistance from peers and the instructor in editing, revising and refining their creations, leading to a portfolio of notated and recorded work. Prerequisites: MUSC 110, MUSC 110A. <i>3 semester hours.</i>	MUSIC 255 & 256 Fundamentals of Piano I & II	MUSIC 104 Chamber Singers Auditioned vocal ensemble drawn from the University Singers sings demanding music; permission of instructor or program director required. <i>1 semester hour.</i>
MUSIC 215 Music Theory III Introduction to the harmonic and formal practices of the seventeenth and eighteenth centuries in Western music. Examples from the repertoire studied. Continues the study of		MUSIC 105 Orchestra A university-community orchestra offering opportunity for public performance. <i>1 semester hour</i>
		MUSIC 106 Fusion Ensemble

Music • Nursing

Instrumental ensemble performing in a variety of configurations and genres, with focus on commercial, contemporary, and popular musical styles. Opportunities for arranging, composition, improvisation, and songwriting.
1 semester hour.

MUSIC 107A-P

Chamber Ensembles

Development of musical skills related to functioning within a small ensemble. An exploration of rehearsal techniques and group dynamics leading to performance of chamber ensemble repertoire.

1 semester hour.

MUSIC 108

UB Percussion Group

Percussion ensemble performing in concert.
1 semester hour

MUSIC 109

Accompanying

Serving as piano accompanist for University ensembles, productions, vocal lessons, or instrumental lessons as assigned.

1 semester hour.

MUSIC 111

Concert Band

A university-community wind ensemble offering opportunity for public performance.
1 semester hour.

Music Education

MUSIC EDUCATION 240

Field Experience in Music Education

Designed to give the prospective music teacher firsthand knowledge of the role, responsibilities, and skill set of the professional music educator and the realities of contemporary music education by observing and assisting experienced music teachers in local schools and arts organizations, and reflecting on the experience.

1 semester hour

MUSIC EDUCATION 311

Conducting

Students will acquire or refine further the fundamentals of an effective conducting technique, as well as rehearsal techniques and approaches to score study.
3 semester hours.

MUSIC EDUCATION 320

Group Instruction in Voice

Designed to provide the future school music teacher with improved proficiency as a singer,

an understanding of vocal development, and the ability to develop students' singing voices at all grade levels.

3 semester hours.

MUSIC EDUCATION 321

Group Instruction in Strings

Designed to provide the future school music teacher with basic proficiency on string instruments, and the skills needed to teach string players at all grade levels.

3 semester hours.

MUSIC EDUCATION 323

Group Instruction in Woodwinds

Designed to provide the future school music teacher with basic proficiency on woodwind instruments, and the skills needed to teach woodwind players at all grade levels. *3 semester hours.*

MUSIC EDUCATION 325

Group Instruction in Brass

Designed to provide the future school music teacher with basic proficiency on brass instruments, and the skills needed to teach brass players at all grade levels.

3 semester hours

MUSIC EDUCATION 326

Group Instruction in Percussion

Designed to provide the future school music teacher with basic proficiency on both pitched and unpitched percussion instruments, and the skills needed to teach percussionists at all grade levels.

3 semester hours

MUSIC EDUCATION 331

Literature and Techniques for Choral Music

A study of choral literature and rehearsal techniques appropriate for all grade levels.

3 semester hours

MUSIC EDUCATION 332

Literature and Techniques for Instrumental Music

Study of band, orchestra, and jazz ensemble literature with emphasis on rehearsal techniques and problems related to band and orchestra organization.

3 semester hours

MUSIC EDUCATION 341

Choral Practicum

Designed to give the music education student an opportunity to expand conducting technique, develop rehearsal techniques, and expand familiarity with standard choral literature. Opportunity will be provided to rehearse and conduct University choral ensembles.

1 semester hour

MUSIC EDUCATION 342

Instrumental Practicum

Designed to give the music education student an opportunity to expand conducting technique, develop rehearsal techniques, and expand familiarity with standard instrumental literature. Opportunity will be provided to rehearse and conduct University instrumental ensembles.

1 semester hour

MUSIC EDUCATION 343

Music in Elementary Schools

Musicianship skills, musical repertoire, pedagogy, and problem-solving for teaching music in prekindergarten through grade six.

3 semester hours

MUSIC EDUCATION 344

Music in Secondary Schools

Musicianship skills, musical repertoire, pedagogy, and problem-solving for teaching music in secondary schools.

3 semester hours

MUSIC EDUCATION 399

Independent Study

Specialized advanced projects in subjects not covered by course offerings. Conferences with designated independent study advisor. Permission of program director required.

1-3 semester hours

MUSIC EDUCATION 435

Designing Curriculum and Instruction in Music

In this seminar, students will explore, and critically reflect upon, the relationships among music, philosophy, psychology, sociology, and education. Course content includes aesthetic and praxial philosophies of music and the arts (from ancient Greece to the present) as well as the psychology of music, the history and sociology of music, and influential practices and schools of thought within the profession (i. e. Dalcroze, Gordon, Kodaly, Orff). Students will explore the implications of course concepts for contemporary music education at all grade levels.

3 semester hours

Nursing

NURS 201

Introduction to Nursing

This course introduces concepts and roles of professional nursing and the UBSN conceptual framework, philosophy, values, and student learning outcomes for the nursing curriculum. Nursing process, introductory communication

Nursing

skills, and the elements of the health care system are explored. Tools for facilitating success as a nurse are presented.

2 semester hours

NURS 202

Fundamentals of Nursing

This course focuses on the fundamentals of nursing practice based on the biological, behavioral, social and nursing sciences. The course presents the professional nurse role as the provider of care and explores safety and environment of the healthcare system. The core competencies of patient-centeredness, spirit of nursing, communication, and nursing judgment are interwoven with basic nursing principles of oxygenation, perfusion, fluid/electrolytes, mobility, elimination, and pain. Clinical experiences provide opportunities to implement beginning psychomotor skills including medication administration and the nursing process in the delivery of nursing care.

3 credits lecture, 1 credit lab, 4 semester hours

NURS 204

Health Promotion I: Health Assessment

This course focuses on the concepts and skills of a holistic health assessment to identify an individual's health care status along the health-illness continuum. Health promotion strategies are identified and used to guide the development of a plan for assisting a person to maximize health capacity.

2 credits lecture, 1 credit lab, 3 semester hours

NURS 206

Health Maintenance and Restoration I

This course focuses on the role of provider of holistic nursing care to adult patients experiencing changes in safety, elimination, digestion, sensory, mobility and immune status. Opportunities are provided for students to use critical thinking skills in assessing, planning, implementing, documenting, and evaluating nursing care in perioperative and other medical/surgical environments. Core values and competencies are examined throughout the roles and behaviors of provider of care, designer/manager/coordinator of care, and member of a profession

3 credits lecture, 3 credits clinical, 6 semester hours

NURS 208

Pharmacology for Professional Nursing

This course focuses on the basic principles of pharmacology and nursing implications. The nursing process is used to explore the therapeutic effects of pharmacological interventions.

Patient education and clinical applications are emphasized for pharmacology interventions in patient care. The course also explores the indications, modes of action, effects, contraindications and interactions for selected drug classifications. Specific nursing responsibilities related to drug administration care are emphasized.

3 Credits

NURSING 301

Nursing Theory & Evidence-Based Practice (pre-req Statistics)

This course is designed to introduce the RN student to the conceptual, philosophical, scientific, and ethical bases for professional nursing practice. The relationship among theory, research and evidence-based practice is explored and applied to real life practice situations. The role of the nurse in support of this theory, research, and evidence-based practice is addressed through a theoretical paper, research critiques, and discussion of evidence-based care in selected scenarios.

3 Credits

NURSING 302

Health Assessment

The focus of this course is to provide the essential elements of health assessment relevant to the role of the BSN graduate. Skills and tools for holistic health assessment are provided that facilitate the implementation of safe, quality nursing care across the lifespan.

3 Credits

NURSING 303

Community Health

This course is designed to provide students with the opportunity to apply the nursing process to the community as the health client. Students will apply principles of community assessment and health promotion to investigate a community/ population health status. The health needs of populations at risk within the community are identified and plans are formulated to meet those needs.

3 Credits

NURSING 304

Professional Seminar

A seminar course focusing on issues pertinent to professional nursing practice. This course provides an opportunity for the RN student to complete the synthesis to the BSN role prior to program completion while exploring current trends that impact the practice of professional nursing.

3 Credits

NURSING 305

Leadership and Management in Nursing

Introduces the RN student to organizational theory, management, structure of nursing care delivery systems, and components of leadership behavior. This course focuses on the role of the nurse as both a formal and informal leader in multiple roles of organizing, teaching, decision making, evaluating, and managing conflict.

3 credits

NURSING 306

Quality, Safety/Health Policy

This course examines health care policy and politics as it relates to the quality and safety of nursing practice. Historical, ethical, political, and economic factors are discussed and the nurse's responsibility and role in health care policy is explored. A project facilitates application of principles addressed in the course.

3 credits

NURSING 307

Nursing & Healthcare Informatics

The focus of this course is to introduce the principles of health care informatics, communication networks, and health care technology in the assessment, delivery, and evaluation of quality nursing care in a variety of settings. Ethical and legal considerations are integrated into the application of technological best practice to care.

3 Credits

NURSING 308

Capstone II

This seminar style course is designed to provide an opportunity for synthesis of learning experiences from past and current learning to promote professional practice emphasizing principles of lifelong learning and caring practices. Collaboration with other health care providers to improve evidence-based outcomes of care for individuals, families, and communities is emphasized. The application of these concepts through the development of a professional portfolio will document a strategic change project that reflects successful completion of individual goals and program learning outcomes.

3 Credits

NURS 310

Population and Global Health

This course is for RNs and focuses on application and population health. Students apply

Nursing • Nutrition

concepts of the nursing process to a selected aggregate population through completion of a community assessment project demonstrating successful accomplishment of practice experiences.

2 credits lecture, 1cr practice, 3 credits

NURS 314

Research Process in Nursing

This course is designed to introduce the conceptual, philosophical, scientific and ethical basis for professional nursing practice. It examines theories of nursing and other theories relevant to nursing practice. The relationship of theory, research and evidence-based practice is explored and applied to real life practice situations. The structure and function of interprofessional relationships are examined as evidence-based practice is discussed and applied.

3 semester hours

NURS 316

Health Maintenance and Restoration II

This course emphasizes holistic nursing care for patient experiencing changes in metabolism, elimination, oxygenation and perfusion status. Students integrate theoretical knowledge into their clinical practice of the health-illness continuum in a variety of health care settings. Core values and competencies are examined throughout the roles and behaviors of provider of care, designer/manager/coordinator of care, and member of a profession.

3 cred lect, 3 cred clinical, 6 semester hours

NURS 318

Essentials in Psychology and Mental Health in Nursing

This course explores the application of concepts and principles of psychiatric/mental health care to individuals, groups, families, and communities to promote, restore and maintain optimal health for those experiencing psychopathology. Students examine the social and environmental impact upon patients and families' abilities to meet the challenges of mental illness and refine their delivery of nursing care and therapeutic communication. Students are encouraged to examine their personal values and feelings in caring for patients in this setting and their interaction with the inter-professional mental health team.

3 credits lecture, 1 credit clinical, 4 semester hours

NURS 320

Health Maintenance and Restoration I

This course focuses on the nurse's role in

providing holistic nursing care to basic medical surgical adult patients. Nursing care concepts will be addressed from a physiologic, pathophysiologic, and psychosocial context. Opportunities are provided for students to develop critical thinking and clinical reasoning through application of the nursing process. Core values, patient education, and nursing competencies will be examined through a variety of learning experiences.

3 credits lecture, 3 credits clinical, 6 semester hours (ABSN only)

NURS 322

Health Maintenance and Restoration II

This course focuses on the nurse's role in providing holistic nursing care to medical-surgical adult patients. Nursing care concepts will be addressed from a physiologic, pathophysiologic, and psychosocial context. Opportunities are provided for students to develop critical thinking and clinical reasoning through application of the nursing process. Core values, patient education, and nursing competencies will be examined through a variety of learning experiences.

3 credits lecture, 3 credits clinical, 6 semester hours (ABSN only)

NURS 323

Essentials of Family Nursing

This course focuses on holistic nursing care of the child-bearing and child-rearing family. The roles of the nurse as provider, designer/manager/coordinator of care and member of the profession are implemented across the health-illness continuum. Opportunities are provided in a variety of clinical settings for family centered nursing that is evidence-based and incorporates nursing informatics and patient care technology.

3 credits lecture, 2 credits clinical, 5 semester hours

NURS 326

Health Maintenance and Restoration III

This course emphasizes nursing care of patients experiencing changes in immunity/cellular regulation, skin integrity, and perfusion. Nursing care of patients with complex, multi-system failure is introduced and the roles of the nurse as provider, designer/manager/coordinator of care and member of the profession are demonstrated in selected patient care environments. Students are expected to integrate and synthesize theoretical knowledge, core values, and competencies when providing safe, effective, quality nursing care.

3 credits lecture, 3 credits clinical, 6 semester

hours

NURS 328

Health Policy and Health Systems

This course examines health care policy, health systems, and political issues as they relate to nursing practice. Historical, ethical, legal, political and economic factors are discussed and the nurse's responsibility and role in examining and contributing to the development of health care policy is identified.

3 semester hours

NURS 344

Health Promotion II: The Community

This course explores the concepts and principles of caring for clients in the community setting and the community as clients. Diverse nursing roles and interventions are examined and in-depth community assessment employing epidemiological principles and data collection strategies is emphasized. Discussion of the determinants and operations of the health care system from a broad political, economic, social and legal perspective are integrated throughout.

3 credits lecture, 2 credits clinical, 5 semester hours

NURS 345

Leadership and Management Roles in Nursing

This course introduces organizational theory and structure of nursing care delivery system and components of leadership behaviors within the nursing roles of provider or care, designer/manager/coordinator of care, and member of the profession. Focus is on the role of the nurse leader in the multiple expectations of organizing, teaching, decision making, evaluating, and managing conflict. The principles of delegation, priority setting and the management of patient care are emphasized throughout the course as they are applied in the classroom and clinical settings.

3 semester hours

NURS 357

Current Issues and Trends in Nursing

This seminar course focuses on timely issues pertinent to professional nursing practice and provides an opportunity for students to design and lead a seminar. Practice, economic, political, social, technology, legal, ethical, and spiritual needs are all examined in relation to the integrity and standards of professional nursing practice.

3 semester hours

NURS 358

Transition to Professional Practice

Nutrition • Philosophy

This course explores the students' transition into professional nursing practice. Holistic care is emphasized as a student selects a specialty area of practice in a clinical arena in an area of choice. Students integrate core knowledge of nursing to provide care within the health-illness continuum in the roles of provider, designer/manager/coordinator of care and member of the profession.

2 credits lecture, 4 credits clinical, 6 semester hours

NURS 393

Capstone II

This course facilitates an in-depth evidence-based study of a student selected area of interest related to nursing practice. Leadership and research concepts are integrated and the study results in a capstone ready for presentation. Synthesis of nursing knowledge, liberal arts and sciences are expected. The course requires application of the research process, project development, and critical thinking that demonstrates synthesis of knowledge and skills relevant to the practice of the BSN nurse.

3 semester hours

Nutrition

NUTRITION 121

Anatomy and Physiology I, II

A detailed study of the structure and function of cells, tissues, and organ systems. Control systems of the human body, homeostatic mechanisms, and the interrelations between the systems are studied.

8 full day weekend sessions; 6 semester hours

NUTRITION 122

Introduction to Biochemistry

A review of basic general chemistry topics including atomic theory, periodic law, chemical bonding, chemical reactions, kinetics, acids, bases and organic chemistry topics including isomerism, and physiochemical properties of various functional groups. Biochemical properties of carbohydrates, lipids, proteins, and nucleotides will also be discussed.

6 full day weekend sessions; 4 semester hours

NUTRITION 123

Nutrition Seminar

A seminar designed to provide students with the basic principles of nutrition. Topics include classes and sources of nutrients, energy intake and expenditure, dietary standards and guide-

lines, food labeling and food safety. Emphasis will be placed on the role of macronutrients in the diet.

2 full day weekend sessions; 1 semester hour

NUTRITION 204

Principles of Nutrition

The principles of nutrition are presented with emphasis upon diet counseling and behavioral modification for the dental patient. The case method is used both in theory and practice to relate prevention and control of oral disease through nutritional status. Prerequisite: CHEM 114.

2 semester hours

NUTRITION 205

Fundamentals of Nutrition

The fundamentals of normal and therapeutic nutrition are presented. Attention is focused on the promotion of health, prevention of illness and the restoration of health following illness for injury. This course includes a self analysis of the participant's diet.

3 semester hours

NUTRITION 299

Independent Study

Students examine specific nutritional topics of personal interest. Permission of instructor is required.

3-6 semester hours

NUTRITION 350

Community Nutrition

This course will provide students with the knowledge, skills, tools and evidence-based approaches needed by community nutritionists to promote health and prevent diseases.

3 semester hours

Philosophy

PHILOSOPHY 101

General Philosophy

A survey of the central problems of metaphysics, epistemology, and ethics. Topics include the existence of God, extreme skepticism, the relationship between mind and body, free will versus determinism, and freedom of expression. The course includes analysis of representative thinkers.

Offered: Spring/Fall only

3 semester hours

PHILOSOPHY 103

Men, Women, Issues

A discussion of gender differences and sex equality. The course critically examines topics

such as sexual harassment, comparable worth, monogamous marriage, prostitution, and rape. These topics are examined from a variety of perspectives, including conservatism, liberal feminism, traditional Marxism, radical feminism, and the care and justice outlooks that Carol Gilligan has identified.

Offered: Every 3rd of 4th Semester

3 semester hours

PHILOSOPHY 104

Logic and Scientific Method

Study of logical inference, both deductive and inductive. Analysis of propositions, arguments, fallacies, language, and the nature and functions of the methods of the sciences.

Offered: Every 3rd of 4th Semester

3 semester hours

PHILOSOPHY 110

Health Care Ethics

Explores ethical issues relating to health care. Topics include doctor-patient confidentiality, the right to refuse treatment, animal experiments, abortion, and euthanasia, among others.

Offered: Spring/Fall only

3 semester hours

PHILOSOPHY 203

Ethics

A study of problems of applied ethics, such as abortion, animal experimentation, affirmative action, and gay and lesbian rights. These problems are explored from the standpoint of ethical theories such as utilitarianism and Kantian ethics. The course helps students formulate and interpret moral values by which they may think and act.

Offered: Spring only

3 semester hours

PHILOSOPHY 205

History of Western Philosophy

A survey of the historical development of philosophy from antiquity through the 19th Century, with weight given to the contributions of Greek philosophers and those of the Middle Ages and the Enlightenment. In the 19th Century, attention is given to the rationalist, idealist, and empiricist schools of thought and their influence. Prerequisite: English 101.

Offered: Every 3rd of 4th Semester

3 semester hours

PHILOSOPHY 210

Animal Rights

This course explores philosophical theories of animal rights as well as the practical applica-

Physics • Political Science

tions of these theories. Topics include vegetarianism, animal experiments, hunting and fishing, the treatment of animals in zoos and circuses, the treatment of companion animals, the treatment of animals in the fur and leather industry, and the use of violence by some animal rights activists.

3 semester hours

PHILOSOPHY 211

Philosophy of Human Rights.

This course explores the following questions: Do human beings have rights? What rights do human beings have? Is torture ever morally justified? How far should freedom of speech and freedom of action extend? Does a fetus have a right to life? To what extent does a free market promote human rights? To what extent are Confucian ideas compatible with human rights?

Offered: Every 3rd of 4th Semester

3 semester hours

PHILOSOPHY 213

Philosophy of Science

This course will introduce students to the philosophy of science by focusing on connections between science and philosophy. Students will examine the ontological status of theories, the social organization of science and interactions between these topics and epistemological questions.

Offered: Spring only

3 semester hours

PHILOSOPHY 323 (PHIL 323/PSCI 323)

Classics in Political Theory

Analysis of principles of political theories of the Ancient Greek, Roman, Medieval, and Early Modern periods. Emphasis on the thought of Plato, Aristotle, the Stoics, St. Augustine, St. Thomas Aquinas, Machiavelli, Hobbes, Locke and Montesquieu. Application of these theories to contemporary political ideas and problems. Prerequisite: English 101.

Offered: Every 3rd of 4th Semester

3 semester hours

PHILOSOPHY 340

Selected Topics in Philosophy

Concentrated study of a major figure or theme that will supplement the offerings in the department.

Offered: Every 3rd of 4th Semester

3 semester hours

PHILOSOPHY 398

Internship

1-6 semester hours

PHILOSOPHY 399 Independent Study

For the student who wishes to specialize in advanced topics not covered by regular course offerings. Individual or small group conferences with designated advisor. Prerequisite: Permission of School Director.

1-6 semester hours

Physics

PHYSICS 103

Basic Concepts of Physics I

Space and matter, particles in motion, Newtonian mechanics, atoms and heat, wave phenomena. Lab fee assessed.

2 lectures; 1 two-hour lab; 3 semester hours

PHYSICS 201

General Physics I

A non-calculus course which presents an introduction to classical mechanics, heat and thermodynamics. (This course cannot be used to satisfy an additional natural science elective requirement if PHYS 207 is also taken.) Prerequisite: Mathematics 105 or 106; minimum grade C. Lab fee assessed.

3 lectures; 1 three-hour lab; 4 semester hours

PHYSICS 202

General Physics II

A non-calculus course covering the fundamental laws of electricity and magnetism, electric circuits, and optics, including topics from modern physics. (This course cannot be used to satisfy an additional natural science elective requirement if PHYS 208 is also taken.) Prerequisites: Physics 201; minimum grade C. Lab fee assessed.

3 lectures; 1 three-hour lab; 4 semester hours

PHYSICS 207

Principles of Physics I

The principles of mechanics and their applications. Kinematics, Newtonian mechanics, conditions for equilibrium, statics, work, energy, conservation laws, rotation and simple harmonic motion. Prerequisite: Mathematics 109; Co-requisite: Mathematics 110. Lab fee assessed.

3 lectures; 1 recitation, 1 three-hour lab; 4 semester hours

PHYSICS 208

Principles of Physics II

Electric forces and fields, electrical potential, electric properties of matter. Magnetic forces and fields, charges in motion, magnetic properties of matter. Electromagnetic induction,

Maxwell's equations. Wave motion, electromagnetic waves. Prerequisite: Physics 207, 111, Mathematics 110; minimum grade C. Co-requisite: Mathematics 112. Lab fee assessed.

3 lectures; 1 recitation; 1 three-hour lab; 4 semester hours

PHYSICS 209

Principles of Physics III

Heat, heat transfer and thermal processes. Thermal properties of matter, entropy and Laws of Thermodynamics. Generation of electromagnetic waves and the nature and propagation of light. Physical and geometric optics. Special theory of relativity. Photons and the particle nature of light. DeBroglie Hypothesis and matter waves. Prerequisite: Physics 208 (minimum grade C); Co-requisite: MATH 215. *3 lecture periods; 1 recitation, 3 semester hours*

PHYSICS 209L

Principles of Physics III Laboratory

The laboratory component of Phys 209 serves as an extension of the lecture course by introducing selected topics in a practicum setting (heat exchange, optics and elements of modern physics.) Prerequisite: Physics 209; Co-requisite: MATH 215. *1 two-hour lab; 1 semester hour*

PHYSICS 351

Advanced Analysis for Scientists and Engineers I

Matrix algebra and the eigenvalue problem. Fourier series, integrals and transforms. Partial differential equations. Sturm-Liouville Systems and Orthogonal Functions. Bessel, Legendre, Gamma, Dirac-delta and other special equations. Applications to various areas of science and technology. Prerequisites: Mathematics 215 and 281; minimum grade C. Cross-listed as MATH 351.

3 semester hours

PHYSICS 352

Advanced Analysis for Scientists and Engineers II

Functions of a complex variable. Conformal mapping. Laurent Series, residues and contour integration. Prerequisites: Mathematics 215 and 281; minimum grade C. Cross-listed as MATH 352.

3 semester hours

PHYSICS 399

Selected Topics in Physics

Selected topics in physics on specialized subjects beyond the scope of required courses to

Political Science

inform students of current areas of interest or to train students in special areas of physics.
3 semester hours

Political Science

POLITICAL SCIENCE 101

American Government

The Constitution. Structure and function of the national government: proper citizenship, civil rights, elections, and party organizations.
3 semester hours

POLITICAL SCIENCE 103

Introduction to Political Science

This course serves as a gateway to the study of political science for IPED majors and political science/international relations minors. We'll survey the historical and philosophical foundations of the political science discipline, major subject fields under the general category of political science, key concepts and issues in political science, and basic scientific methods in political science study and research.
3 semester credits

POLITICAL SCIENCE 203

U.S. Foreign Policy

This course examines contemporary US foreign policy from theoretical and policy perspectives. How American foreign policy is formulated and conducted will be discussed during the first half of the semester. The second half will be devoted to evaluations of US policies, especially economic and trade policies, towards key regions of the world.
3 semester credits

POLITICAL SCIENCE 204

Government and Politics Abroad

Principal institutions, methods, and problems of government of selected foreign countries in Europe, Asia, Africa, and Latin America as compared with the American System.
3 semester hours

POLITICAL SCIENCE 206

The Political Economy of North-South Relations

Political-economic disparities between "North" (the developed nations) and "South" (developing countries). The causes of these disparities analyzed from an interdisciplinary point of view. Recurring patterns of obstacles to development in some new nations. The role of international financial and other organizations.
3 semester hours

POLITICAL SCIENCE 207

World Politics

This course explores the principal elements of world politics, examining the context in which the major actors play their roles, as well as the salient features of the international community. It will review the most significant aspects of global politics by examining such topics as foreign policy, the nature of national power, and war. It will examine the origin, organization, and function of the major international institutions, and conclude with a discussion of global issues.
3 semester hours

POLITICAL SCIENCE 208

Public International Law

History and nature of international law, territorial sovereignty, natural resources and international norms (e.g. exclusive economic zones, the continental shelf, outer space, etc.), diplomatic & consular relations, International Court of Justice and other tribunals, and the use of force in international law. Prerequisite: Political Science 101 or 204.
3 semester hours

POLITICAL SCIENCE 209

Introduction to United Nations Studies

Examination of the successes and failures of the United Nations, its prospects for the future, principal organs, especially the Security Council, budgetary system, role in arms control, relations between the United Nations and the United States, and related issues.
3 semester hours

POLITICAL SCIENCE 215

International Human Rights

A study of the international protection of human rights. The course analyzes the origin and nature of human rights, the content of human rights standards guaranteed by international law, as well as the global international mechanism for the protection of human rights. It includes a comparative examination of the regional systems in Europe, the Americas, Asia, and Africa for the protection of human rights.
3 semester hours

POLITICAL SCIENCE 216

Gender Politics from a Global Perspective

This course examines the main theoretical approaches, questions, debates, and findings about the role of gender in politics across countries. Students will analyze the global variation in women's political participation and voting behavior; women's representation in executive and legislative offices; the impact of women's leadership on various policy areas; and women's participation and activism in civil

society.
3 semester hours

POLITICAL SCIENCE 218

Human Security

Human Security involves looking at world security issues from the perspective of individual people. This course introduces students to the concept of Human Security, its importance in meeting the basic needs of people and preventing state collapse, and its usefulness, in forging greater transnational accountability.
3 semester hours

POLITICAL SCIENCE 229

Political Economy of China

This course is designed to help students make sense of contemporary China—its dynamic social and economic changes, its lasting political culture, its enduring struggle for modernization and democratization, and its evolving relations with the rest of the world. The focus will be on major achievements, problems, and challenges facing China today.
3 semester credits

POLITICAL SCIENCE 233

An Introduction to the U.S. Legal System

This course will offer a comprehensive overview of the U.S. legal system, including an overview of legal practice sources and techniques with emphasis on the major substantive areas of the law. Students will begin by examining issues in constitutional law, with an overview of how government functions and how laws are made. A legal writing segment of the course will allow students to use legal analysis while refining their writing skills.
3 semester credits

POLITICAL SCIENCE 299

Selected Topics in Political Science

A course with variable topic focus, dependent upon student needs and the expertise of the instructor.
3 semester hours

POLITICAL SCIENCE 303 (PSCI 303/IPED 340)

Political Economy of Latin America

This course will explore pre-Colombian, as well as colonial and post-colonial political and economic development in Latin America. It will pay particular attention to socio-political developments of the Cold War period as well as recent significant initiatives such as the Santiago Commitment, MERCOSUR, and NAFTA, attempting to assess their impact upon Latin America's transformation from developmentalism, to Third World politics, to an emerging center of democratic capitalism. Prerequisites:

Political Science • Professional Studies

IPED 201 or 202 or instructor permission.

3 semester hours

POLITICAL SCIENCE 305

International Relations

International Relations is an upper-level course focused on the study of the interactions between diverse international actors, ranging from states and international organizations to individuals and non-governmental organizations (NGOs). In this course, we will explore some of the persistent problems of global politics, such as violence, inequality and environmental degradation. Prerequisite: Political Science 204 or 206 or 207.

3 semester hours

POLITICAL SCIENCE 312

Diplomacy and Foreign Policy

This course examines the role of diplomacy in international relations. Through readings and discussions we try to answer several questions: what is diplomacy? What is the role of diplomacy in foreign policy making? Who are diplomats and what do they do? What is the art of diplomacy? How to become an effective negotiator? How does culture affect international negotiations? What is public diplomacy? And what is the future of diplomacy in international relations?

3 semester hours

POLITICAL SCIENCE 321 (PSCI/IPED 321)

Political Economy of East Asia

In recent decades, the East Asian region has often been described as a model of socioeconomic development, which newly developing regions should emulate. This course will encourage learners to explore the extent to which the East Asian paradigm of development is valid for other regions. This course will explore the cultural and historical factors contributing to the political and economic trajectories China, Korea, and Japan. Through studying East Asia's unique sociopolitical and economic trajectory, students should be equipped to better contextualize and assess the challenges and opportunities currently facing the Peoples Republic of China, Taiwan, Hong Kong, Japan, and the Koreas.

3 semester hours

POLITICAL SCIENCE 323 (PSCI 323/PHIL 323)

Classics in Political Theory

Analysis of principles of political theories of the Ancient Greek, Roman, Medieval, and Early Modern periods. Emphasis on the thought of Plato, Aristotle, the Stoics, St. Augustine, St.

Thomas Aquinas, Machiavelli, Hobbes, Locke and Montesquieu. Application of these theories to contemporary political ideas and problems.

3 semester hours

POLITICAL SCIENCE 324 (PSCI 324/PHIL 324)

Recent Political Theory

Analysis of the major contemporary ideologies, their historical-philosophical backgrounds and public policy implications. Among the ideologies and belief systems considered are liberalism, conservatism, Marxism (including Leninism and Maoism), fascism, anarchism, religious fundamentalism, and feminism. The cultural expressions of these ideologies in arts and literature are also examined.

3 semester hours

POLITICAL SCIENCE 343

Constitutional Law

This course examines the operation of the U.S. Constitution, as well as its origins, philosophical underpinnings, and current issues. Course work includes reading, discussing, and writing about constitutional issues. Prerequisite: Political Science 101 or 233.

3 semester hours

POLITICAL SCIENCE 371

Terrorism

This course introduces terrorism as a subject of sociological, legal, military, political, and strategic study. The course considers the objectives of the terrorist and terrorist organizations, and recent counter-terrorism strategies. The course also encourages students to think about long-term strategies to combat terrorism, both within a nation-state and across international borders.

3 semester hours

POLITICAL SCIENCE 373

Islam and Democracy

This course aims to address the following questions: Are Islam and democracy compatible? How is religious interest defined? How are Islamic images and institutions used? What is the historical relationship between Islam and politics? When and under what conditions is Islam publicized and politicized? Is Islam compatible with modernity? Is it possible to be modern and Muslim at the same time? How do Islamic scholars deal with the questions of "difference", democracy, and science? The major task of this course will be to assess how religion makes an impact on politics, state and society and in turn is impacted upon and potentially transformed by society, politics

and the state. Instructor's permission may be required for this course.

3 semester hours

POLITICAL SCIENCE 395

Senior Thesis

After completing Social Science Research Methods, students work individually with a faculty advisor to research and write a thesis on a topic of interest related to the field of Political Science. The project should build upon research methodologies and theoretical perspectives introduced in Introduction to Political Science and Methods and Social Science Research Methods as well as other relevant courses in the major. Prerequisite: completion of 90 credits.

3 semester hours

POLITICAL SCIENCE 398

Internship

Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.

1-6 semester hours

POLITICAL SCIENCE 399

Independent Studies

This course permits the advanced political science student to undertake individual research in the area approved by the instructor. Continuous consultation with the instructor is required. Prerequisite: Permission of School Director.

1-6 semester hours

Professional Studies

PROFESSIONAL STUDIES 201

Fundamentals of Management and Leadership

This course explores the fundamental principles, theory and functions applicable to a variety of organizational settings. Specific techniques related to managerial functions are explored as well as the broad issues and trends influence the practice of contemporary management: globalization, technology, diversity, and competitive advantage. Special emphasis is on the role leadership plays in motivation, performance management, communication, team building, innovation, and change management. Prerequisite: None

PROFESSIONAL STUDIES 202

Business Math

Business Math will assist students in learning to use mathematics effectively as a tool in their personal and business lives. After students complete this course, they will be able

Professional Studies • Psychology

to understand the terminology used, apply basic math skills, and use common mathematical formulas to solve a variety of personal and business mathematics problems. Prerequisite: None

PROFESSIONAL STUDIES 204

Social Impact of Technology

This course is designed to critically assess the institutional forces that shape and create the demand for information technology (IT). It will also discuss how the consumption of IT impacts economy and society. The course will help participants think about how changing social and economic conditions determine what technologies are consumed and how they are consumed, who consumes them and where they are consumed. Prerequisite: None

PROFESSIONAL STUDIES 220

Analytical & Persuasive Writing

Continuing to practice the rhetorical skills introduced in ENGL 101, students will develop analytical, interpretive, and information literacy skills necessary for constructing a well-supported, researched, academic argument. Prerequisite: ENGL 101

PROFESSIONAL STUDIES 224

Critical Thinking & Writing

Develops the ability to analyze, criticize and advocate ideas. Examines relationship of language to logic, induction and deduction, facts, inferences, judgments, formal and informal fallacies of language and thought. Instructs in writing about issues of critical thinking to develop both thinking and writing skills. Prerequisite: ENGL 101

PROFESSIONAL STUDIES 250

Budgeting & Finance for Organizations

This course familiarizes managers with the core tasks needed for effective financial planning and explains the budgeting process in diverse organizations. Organization, techniques, and politics of administrative planning, budget preparation and legislative appropriations, and control systems in public administration. Prerequisite: PRST 202

Healthcare Administration

HEALTHCARE ADMINISTRATION 333

Management of Health Care Information Systems

This course examines healthcare organizations from the perspective of managing the information systems that exist within the enterprise. Identifying the clinical and healthcare delivery processes and how they relate to informa-

tion systems is a main focus. The intent of the course is to identify the key issues confronting the management of healthcare information systems today, examine their causes, and develop reasonable solutions to these issues. Prerequisite: PRST 201 & MGMT 300

HEALTHCARE ADMINISTRATION 331

Law and Ethics in Health Care

This course presents an overview of the legal and ethical issues faced by healthcare consumers, practitioners, and administrators. The course will introduce students to the legal aspects of health care at the federal, state, and local levels. Topics covered will include criminal and civil claims against health care providers, corporate and individual liability, and legal and ethical decision-making. Prerequisite: PHIL 203

HEALTHCARE ADMINISTRATION 334

Healthcare Financial Management

This course is an application of financial management techniques to decision making for health care professionals. This course examines aspects of modern hospital & health care organization financial management to prepare students for supervisory and management roles. In addressing the types of financial decisions that health care executives are most likely to be involved in the course objective is to understand the underlying importance of (1) accounting information; (2) health care industry knowledge; and (3) principles of economics. Prerequisite: PRST 250

HEALTHCARE ADMINISTRATION 332

Health Care Organization & Administration

This is an introductory course on the organization, finance and delivery of health care services from a societal perspective. It examines alternatives that a society may organize, finance, and deliver health care services, and the philosophical, social, and political economic foundation underlying a health care system. It begins with examining the nature of health and health care services, and followed by reviewing the role of government and free market on health and health care services. Alternative ways of organizing and financing health care services are then explored. Among private health institutions, the focus of inquiry is on health insurance and its provision, hospitals, the role of physicians, and long-term care organizations. Finally, current issues of the U.S. health care system and possible development are also studied. While this course uses mostly examples from the U.S., experiences from other countries are also discussed

where it is pertinent. Prerequisite: PRST 201 & MGMT 300

HEALTHCARE ADMINISTRATION 365

Healthcare Strategic Management

This course will introduce students to concepts, principles, and practices of strategic management in multiple health care settings. Case studies will be used from the health care industry as well as other business sectors to expose students to the field of organizational behavior. Students will develop their knowledge in areas including negotiation, leadership, organizational design, organizational culture, how people work in organizations, and strategy (including stakeholder and SWOT analysis, and the current approaches to the development of strategic plans). Prerequisite: HLAD 334 & 332

Human Resource Administration

HUMAN RESOURCE ADMINISTRATION 334

Training Methods

This course explores current and emerging models and theories, and practical methods to effectively connect training and learning to organizational/business goals. In this course, the student will learn how to 1) identify training and development needs through needs assessments, 2) analyze jobs and tasks to determine training and development objectives, 3) create appropriate training objectives, 4) design effective training and development programs using different techniques or methods, 5) implement a variety of different training and development activities, and 6) evaluate training and development programs. Prerequisite: MGMT 305

Organizational Leadership

ORGANIZATIONAL LEADERSHIP 341

Supervision and Team Building

The course develops management theories of planning, organizing, staffing, leading, and controlling. Emphasis will be given to the effectiveness of human relations in communication, leadership matters, and team-building concepts as it relates to the workplace. Although the course emphasizes principles and practices of first-line supervision, it also introduces concepts and skills for supervisory leadership and supervisory management needed for effective team building, program or organizational innovation, group decision-making, and mediating intra-staff conflict as well as conflict between staff and administration. Pre-

Psychology

requisite: MGMT 300

ORGANIZATIONAL LEADERSHIP 342

Non-profit Management

This course will introduce students to strategic management issues in the nonprofit sector. The course will cover key issues in founding, leading, managing, and governing nonprofit organizations and new nonprofit ventures, including organizational mission, strategic analysis and planning, board governance, multiple constituencies, partnerships and collaborations, human resources, financial management, fundraising and resource development, and performance measurement and impact.

Prerequisite: MGMT 300

ORGANIZATIONAL LEADERSHIP 350

Organizational Change and Leadership

This course offers students a comprehensive, relevant perspective on leadership and management. While the course provides grounding in important concepts, it also stresses application to professional and community settings. Students analyze concepts such as leading as an interactive process (involving the leader, the "followers", and the situation), managing with innovation and creativity, escaping from embedded practices, and embracing new managerial principles. Prerequisite: PRST 201 & MGMT 300

ORGANIZATIONAL LEADERSHIP 351

Challenges in Leadership Seminar

This course will explore in a seminar format leaders and leadership situations. The key elements of leadership will be discussed and should facilitate the development of a coherent and consistent perspective on leadership. Prerequisite: ORLD 350

Psychology

PSYCHOLOGY 103

Introduction to Psychology

An introduction to the field of psychology, including such topics as research methods, the brain, neuronal structure and functioning, sleep and dreaming, cognitive and social development, learning, memory, intelligence, personality, psychopathology, psychotherapy, social cognition, and social influence. This course is a prerequisite of all higher-numbered psychology courses, with the exception of PSYC 201 (Child Psychology) which can be taken concurrently with PSYC 103 and PSYC 205 (Lifespan Developmental Psychology).

3 semester hours

PSYCHOLOGY 201

Child Psychology

This course will examine the theories and issues surrounding biological, cognitive and psychosocial development from conception to pubescence. This course is interactive with a focus on personal life experience and current social events. Can be taken concurrently with PSYC 103.

3 semester hours

PSYCHOLOGY 202

Adolescence

This course will examine the theories and issues surrounding biological, cognitive and psychosocial development from pubescence to adulthood. Students explore experiences and values related to risk taking, friendship, peer-groups, peer-pressure, marriage, relationships, parenting, and sexuality. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 203

Maturity and Aging

This course will examine the theories and issues surrounding biological, cognitive and psychosocial development from adulthood through death and the process of dying. This course is interactive and focuses on personal experiences and reactions. Important questions about health, longevity, aging, and the dying process are explored. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 205

Lifespan Developmental Psychology

The course will examine the theories and issues surrounding biological, cognitive, and psychosocial development from birth through death. Topics will include attachment, social development, theories and theorists related to developmental change, aging, and health factors impacting each stage of development.

3 semester hours

PSYCHOLOGY 230

Abnormal Psychology

The course will focus on the study of those thoughts, feelings, and behaviors that interfere with psychologically adaptive functioning. The causes and appropriate treatments of mood disorders, personality disorders, schizophrenia, adjustment reactions, and other disorders as specified in the DSM will be discussed. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 240

Social Psychology

This course is designed to provide an overview of the field of social psychology. Learning will be accomplished through reading and discussion of the text, as well as presentation of supplemental material provided by the instructor along with in-class activities, videos and discussion. Topics will include discussion of the varying domains of research in social psychology, important studies in the field, and how it applies to academia and everyday life. Topics will include: attitudes and attitude formation, persuasion, aggression, conformity, obedience, culture, helping behaviors, attraction, self-concept, as well as discrimination and prejudice. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 303

Personality Psychology

This course will focus on the structure, dynamics, and development of personality. Major personality theories – psychoanalytic, trait, behavioral, cognitive, socio-biological, humanistic/existential – and their implications for understanding human cognition and behavior, will be discussed. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 307

Cognitive Psychology

This course will focus on recent advances in the understanding of thought processes. There will be a focus on attention, perception, memory, imagery, problem solving, language, intelligence, creativity, and dreaming. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 309

Industrial/Organizational Psychology

This course provides an application of psychological principles to industry, business, transportation, communications, institutions, leadership, and consumer behavior. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 310

Human Sexuality

Physiological and psychological components of human sexuality, and their interaction will be discussed. There will be a focus on health and social issues and on individual, gender,

Psychology

and cultural differences. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 314

Educational Psychology

Psychological concepts, principles, theory, and research will be applied to the teaching and learning process. There will be a focus on growth and development, adjustment and personality, learning, measurement, and evaluation. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 316

Current Topics in Psychology

Examination of one or more currently prominent topics in psychology, such as memory reconstruction, sexual orientation, emotional intelligence, brain plasticity, or hate crimes. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 321

Research Methods

Students will explore and evaluate the validity of various experimental and non-experimental research strategies and gain experience collecting psychological data, in groups and individually. The course provides foundations of statistical analysis, including both descriptive and introductory inferential statistics. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 333

Exceptional Child

Major categories of exceptional children, their identifying characteristics, and programs to meet their special needs. Course also includes an introduction to child psychopathology. Nature of different disorders, theories of causation, and treatment approaches such as play therapy, behavioral modification, and family therapy. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

PSYCHOLOGY 345

Health Psychology

This course will explore how psychological theories are applied to behaviors associated with health. Students will examine the cognitive and behavioral processes associated with a wide range of mental and physical health activities. Theories and research from clinical, social, developmental and biological backgrounds will be discussed in regards to their

application to health behaviors. Specific topics will include stress and coping, drug and alcohol use, social support, health stigmas, patient/provider interactions, pain and pain management, and disorders related to health. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 346

Animal Behavior

This course integrates the proximate and ultimate causes of behavior through survey of key concepts, theories and models in the field of Animal Behavior. Students will explore the mechanistic causes of behavior including the, genetic, hormonal, neural and environmental influences on behavioral development and expression. Students will examine behaviors important to survival (such as finding food and avoiding predators) and those important to reproduction (such as selecting mates) while considering the manner in which these behaviors are shaped and constrained by ecology and evolutionary history. Students will actively examine classic theories and research in this area, and compare and contrast it with modern scientific perspectives from numerous disciplines. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 348

Psychology of Gender

This course will cover various aspects of the psychology of women such as gender stereotypes and biases, gender comparisons social situations, women and work, love relationships, women and psychological disorders, and violence against women. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 355

Sports Psychology

A study of the psychological foundations of physical activity. An overview of the psychological and mental factors that influence and are influenced by participation and performance in sports, exercise and physical activity. Included are applications of the knowledge gained through research to everyday settings. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 370

Forensic Psychology

Surveys the overall intersection of psychology

and the American court system. Emphasis will be placed on issues related to clinical psychology/psychiatry in the criminal justice system such as sanity evaluation, criminal profiling and assessment of dangerousness. Students will explore how forensic psychologists have been involved in the jury selection process and have contributed to our understanding, of eyewitness testimony (limitations of memory) and the detection of deceit through the polygraph and other techniques. Finally, students will explore how professionals trained in developmental, organizational, and clinical psychology interact with the court system when they serve as "expert witnesses" in a variety of civil and probate matters. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 375

Psychology of Stigma

This course will broadly explore the psychological foundations of stigma, as well as the ramifications of being stigmatized. Theories as to why people stigmatize others, how this is justified and rationalized, and how people cope with being stigmatized will be explored. Specific topics will include racism and discrimination, social exclusion, gender and sexuality bias, stigma consciousness and self-concept, ageism, and taboo behavior. Students will integrate theories of stigma with other modern psychological principles, and will actively discuss and write on these concepts. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 380

Biological Psychology/Neuroscience

The biological mechanisms underlying human behavior will be explored. This course will focus on evolution, genetics, and the anatomy and physiology of the human brain and nervous system. How these systems are affected and impacted by sensory systems, movement, waking and sleeping, homeostasis, hormones, sexual behavior, emotions, learning, memory, and language will be discussed. Prerequisite Course: PSYC 103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 381

Drug Effects and Behavior

Fundamentals of psychopharmacological research with emphasis on human drug-taking behavior will be discussed. A discussion of the various psychoactive drugs and implications of their use will occur. Prerequisite Course: PSYC

Psychology • Retailing

103 with a grade of "C" or higher.

3 semester hours

PSYCHOLOGY 385

Statistical Methods in Psychology

This course will provide the student with an overview of basic statistical theories and methodologies used in modern psychological research. Topics will include the theoretical basis, application, and methodologies involved in descriptive statistics, correlations, t-tests, ANOVAs and regressions. Prerequisite Course: PSYC 103 with a grade of "C" or higher and MATH 103p with a grade of "C" or higher.
3 semester hours

PSYCHOLOGY 390

Psychology Research Practicum

This course is designed to give students the opportunity and experience of assisting with empirical research in psychology, under directed mentorship of a faculty member at UB. Prior approval by that faculty member is required. Directed mentorship in a psychology laboratory outside of UB will be considered. Students will learn about the ethics involved in human research, and will assist a faculty member in their research through activities such as participant recruitment, survey administration and other forms of data collection, data entry, and empirical literature review. Students will provide a written summative overview of their experience at the end of the semester. This course is by instructor permission only, and is limited to psychology (or closely related area) majors with a minimum of sophomore standing and a 3.3 cumulative GPA. Prerequisite Course: PSYC 103 with a grade of "C" or higher.
2 – 4 semester hours

PSYCHOLOGY 395

Senior Thesis in Psychology

Students work individually with their advisor to produce an integrative review or conduct empirical research on a specific topic within psychology. Prerequisite Course: PSYC 103 with a grade of "C" or higher.
3 semester hours

PSYCHOLOGY 398

Careers in Psychology (Internship)

This course is designed to give students practical experience applying their knowledge of psychology or psychology related principles to an actual career or work setting. Internships may take place in local businesses, mental health and crisis centers, schools, residential

settings, criminal justice programs, camps, college campuses, hospitals, community centers and other related environments. Students must have a designated, qualified supervisor within the work environment. Students provide written documentation that relates their knowledge to the work setting. This course is by instructor permission only. Prerequisite Course: PSYC 103 with a grade of "C" or higher.
1-6 semester hours

PSYCHOLOGY 399

Individual Study in Psychology

An opportunity to study topics not covered in regular course offerings or to carry out an individual course of instruction. Prerequisite Course: PSYC 103 with a grade of "C" or higher.
1-6 semester hours

Retailing

RETAILING 180

Seminar in Professional Development

Surveys retail and related career areas, entry requirements and employment opportunities. Students are provided with opportunities to develop pertinent retailing related resumes, professional portfolios and interview techniques, as well as letters of application. Detailed study of the current job market and business ethics are also included.
3 semester hours

Offered: Alternating semesters annually

RETAILING 201

Retail Advertising and Fashion Promotion

Principles and methods of advertising and promotion for producers, manufacturers and retailers with emphasis on the retailers most often used media — the newspaper. Varying advertising approaches of the mass merchandiser, the prestigious department store and the specialty store are included. Additionally, students work on individual or group assignments in special events planning, visual merchandise, direct marketing, publicity, newspaper and magazine advertising. The role of the retail buyer and product developer in the advertising function in the planning and budgeting of ads is also included.
3 semester hours

Offered: Alternating semesters annually

RETAILING 202

Retailing Mathematics

A functional and realistic approach to retailing

principles and operations by the application of mathematical formulas and procedures. Emphasis on income statements, pricing techniques, markup, markdown, sales volume, inventory control, merchandising terminology, and merchandising planning. Math placement test must be taken. Required: A grade of at least a "C" to enter Retailing 304
3 semester hours

Offered: Alternating semesters annually

RETAILING 203

Fashion and Retail Buying I

The study of buying theory and techniques for department stores and specialty retailers. Analyzes the buying function and examines how buyers' responsibilities vary in different types of merchandising organizations. Study of the principles, procedures, and techniques practiced by merchandisers of fashion goods in determining resources to select, and assortments to buy includes private label development.
3 semester hours

Offered: Alternating semesters annually

RETAILING 205

Textiles I

Basic concepts of textiles dealing with fibers, yarns and methods of fabric construction. Specific laboratory assignments devoted to natural and synthetic fiber identification and testing. \$50 lab fee.
3 semester hours

Offered: Alternating semesters annually

RETAILING 206

Textiles II

Continuation of textile concepts including the study of films, foams, laminated fabrics, fiber webs, knitted constructions, knotted fabrics, laces and flocked fabrics. In depth study of aesthetic and functional fabric finishes with emphasis on specific needs of the clothing and home furnishings industries. Laboratory work applies industry testing standards to individual fabrics. Woven, knitted, and applied fabric patterns are explored using a variety of mediums including CAD, CAM software. Students are responsible for submitting testing results and aesthetic development projects in addition to preparing sample books of commercially produced designs and functional finishes. Prerequisite: RETL 205. \$50 laboratory fee.
3 semester hours

Offered: Alternating semesters annually

Retailing • Russian • Science

RETAILING 207

Strategies of Selling

Development of professional selling techniques necessary for efficiency and success in all phases of retailing and wholesaling. Expertise in a retail product line is developed through a product research project.

3 semester hours

Offered: Alternating semesters annually

RETAILING 280

Industry Internship

Paid work experience in a faculty-approved retail organization. Six week full-time on-the-job assignment combined with written research into corporate structure and marketing strategy. Holiday selling season of sophomore year. Prerequisite: 2.5 Q.P.R. Student must maintain 2.5 Q.P.R. during the internship semester. Fashion Merchandising and Retailing majors only.

3 semester hours

Offered: Alternating semesters annually

RETAILING 300

Mass Merchandising and Marketing

An analytical study of national and multi-national mass merchandising organizations that include origin, concepts, operations, technology, and profitability. Comparison of in-store mass merchandisers and non-store catalog retailers, on-air merchandisers, and on-line marketers. Students research one in-store and one non-store mass merchandiser of their choice in depth. Students prepare a catalog, an on-air, and an e-tailing presentation using a mass market approach. Students utilize "CATALOG," "STORY-BOARD," software to prepare presentations. Students explore the benefits of social media on the mass market. Prerequisites: RETL 201, RETL 204, RETL 207 and RETL 213; open to juniors and seniors only.

3 semester hours

Offered: Alternating semesters annually

RETAILING 304

Fashion and Retail Buying II

Inventory and stock control procedures, analysis of consumer demand in the buying and marketing of fashion products. Six month budget planning of sales, goods, and promotional activities. Spreadsheets and computer applications are used to plan, analyze, and adjust retailing activities by revisions in quantities and merchandise assortments. Practice in buying from a variety of domestic and international resources. Prerequisites: RETL 102 with a grade of "C" or better and RETL 203.

3 semester hours

Offered: Alternating semesters annually

RETAILING 307

Surface Design I

Introduction to the business of Textile Surface Design. Course focus is on applied surface designs using natural and geometric motifs as they apply in a variety of fashion markets including infant's and children's, women's, men's, domestics and paper goods. Students research current market design and color trends. Using classic, modern, or ethnic motif students work with layout, repeat size and color ways. Students develop their own collection libraries in paper and disc formats. Students design applied patterns and alternative color ways using "DESIGN and REPEAT" and "EASY COLORING" CAD/CAM software. Students prepare portfolios of their best designs. Open to juniors and seniors only. Prerequisites: RETL 205, RETL 206, Design 103. \$50.00 lab fee.

3 semester hours

Offered: Alternating semesters annually

RETAILING 313

Organizational Management

A study of the management decisions faced by the retail executive in today's marketplace. Topics include locations, retail store layout, security, the customer service mix, retail credit arrangements and their cost-benefit relationships. Human resource concerns include recruitment, personnel changes, retraining and layoffs; employee benefits and their impact on both morale and budgets. Students research in-depth one of the top international retailers for practical solutions to a profitable retail environment. Prerequisite: Retailing 201, and Marketing 305; junior and seniors majors only. May not be taken same semester as Fashion Merchandising 270.

3 semester hours

Offered: Alternating semesters annually

RETAILING 330

International Fashion Marketing/Product Development

An examination of international trade for textile and apparel industries. This course studies supporting agencies, foreign manufacturing, distribution, financing, transportation, tariffs and customs regulation. The student will be required to research exporting and importing a product and to prepare both a written and oral presentation. Prerequisites: RETL 205 and RETL 206.

3 semester hours

Offered: Alternating semesters annually

RETAILING 398

Internship Experience

Field study of an organization in action, Students participate in an internship experience at an outside organization in the Fashion or Retail Industries. Students receive a performance evaluation from their supervisor in that organization and from an FM faculty evaluator who will visit the internship site periodically during the term. Students submit a paper with an analysis of their experiential learning. Offered: Every semester

3 semester hours

Offered: Alternating semesters annually

RETAILING 399

Independent Study in Fashion Merchandising, Textiles or Related Retailing Techniques

Independent study in fashion merchandising, textiles or related retailing techniques. Prerequisite: B.S. Degree Fashion Merchandising and Retailing seniors only; permission of chair. A three-credit internship is possible which combines one-credit of work experience with two-credits of independent research.

1-3 credits

Offered: Alternating semesters annually

Russian

RUSSIAN 101

Elementary Russian I

In this course students are introduced to the Russian language and culture. Basic skills in speaking, listening, reading, and writing are developed. Cultural readings and videos are included in each lesson giving the students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. This is a course for students with little or no knowledge of Russian language.

3 semester hours

RUSSIAN 102

Elementary Russian II

This course builds on the foundations laid in Russian 101 and continues to introduce students to Russian language and culture. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course students are expected to reach a beginner level of Rus-

Science • Social Sciences • Sociology

sian language proficiency and should be able to understand/identify familiar vocabulary and conversation topics; engage in a conversation in a target language on a familiar topic; express opinions/feelings about a familiar topic; read and comprehend short simple texts; write short simple sentences. Prerequisite: Russian 101.

3 semester hours

RUSSIAN 103

Intermediate Russian I

This course builds on the foundations laid in Russian 101 and Russian 102 and provides an opportunity to improve Russian language proficiency beyond the beginner level. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. Prerequisite: Russian 102.

3 semester hours

RUSSIAN 104

Intermediate Russian II

This course builds on the foundations laid in Russian 103. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course the students are expected to reach an intermediate level of Russian language proficiency and should be able to understand/identify a range of vocabulary items and topics; engage in a conversation in a target language on a range of topics; express opinions/feelings about a range of topics; read and comprehend medium length texts; write medium complexity sentences. Prerequisite: Russian 103.

3 semester hours

Science

SCIENCE 107

Environmental Conservation

A module driven lecture and laboratory course that will introduce students to important ecological issues and conservation efforts. We will mix lecture with engaging discussions and hands-on lab work in a hybrid format that will explore climate change, pollution, extinction, and other “hot topics” impacting our ecology today. Students will have the opportunity to review lecture material with module based

videos and supplement their knowledge by reading news and research articles. Our laboratory experience will culminate in a group research project exploring the impact of various pollutants on the growth of plants over several laboratory sessions.

2 lecture periods; 1 two-hour laboratory; 3 semester hours

SCIENCE C101

Our Changing Environment: The Earth and Climate

The scientific examination of our planet focusing on the interaction of astronomy, biology, chemistry, geology, and physics, in the formation, evolution, and dynamics of the Earth. Lab fee assessed.

Offered: Spring/Summer/Fall

2 lecture periods; 1 two-hour laboratory; 3 semester hours

SCIENCE C102

Humans and the Environment

A scientific examination of the human organism and the interactions between humans and the environment as they affect not only humans but also the health and viability of home planet Earth. Lab fee assessed.

2 lecture periods; 1 two-hour laboratory; 3 semester hours

SCIENCE C106

Microbes in Our World

A course designed to provide the student with an understanding of the role of microbes in our lives, and their real and alleged effects on the environment. Emphasis is placed on both the beneficial and the detrimental effects of microbes on humans and the environment. Lab fee assessed.

2 lecture periods; 1 two-hour laboratory; 3 semester hours

SCIENCE C201

Our Environment: The Oceans

The scientific examination of the geological, physical, chemical, and biological characteristics of the oceans. The course will include laboratory and field studies of local marine environments. Prerequisite: SCI C101 or SCI C102 or an equivalent course.

2 lecture periods; 1 three-hour laboratory; 3 semester hours

SCIENCE C202

Introduction to Evolution

A course designed to provide an introduction to modern evolutionary theory and the evidence for evolution as illustrated by living organisms. Lab fee assessed.

2 lecture periods; 1 three-hour laboratory; 3 semester hours

SCIENCE 204

Connecticut Biodiversity and Natural History

This course will meet once a week throughout the entirety of the 14-week summer semester. To cultivate a sense of place, students will venture to a variety of local ecosystems while exploring a range of flora and fauna species of interest. Students will learn to identify approximately 200 local species while understanding their importance in regard to the big-picture issues of biodiversity loss and our changing climate. Each module will begin with a classroom lecture and will proceed with field excursions to provide students with a firsthand experiential investigation into the realm of our local lifeforms.

3 semester hours

SCIENCE C206

HIV and Epidemics

The overall goal of this non science major course is to provide up to date, relevant and accurate information about HIV/AIDS while teaching students the basic concepts of microbiology, immunology and epidemiology. Included in the course objectives are units on various diseases particularly associated with epidemics and pandemics. Emphasis will be placed on the history, public responses and prevention associated with these diseases. The relationship between various arts and the sciences fields will be stressed. The separation of fact and fiction in the biology of the HIV virus, and recent advances in meeting the challenges of AIDS will be presented. Students will be expected to complete and participate in a community related service project in relation to helping in the prevention of various diseases. Online access will be needed to complete some assignments and perform virtual labs. The use of the Canvas course management system will be incorporated into the course. Live labs will be used to reinforce principles from class.

2 lecture periods; 1 three-hour laboratory; 3 semester hours

Social Sciences

SOCIAL SCIENCES C201

Introduction to the Social Sciences I

A survey of the development of the social sciences, how they were shaped by historical forces, and their role in understanding society.

Sociology • Spanish

The emergence of economics, anthropology, sociology, psychology, and political science from social philosophy. Prerequisite: ENGL C101 or department permission. A Core Heritage Course.

3 semester hours.

SOCIAL SCIENCES 207

World Regional Geography

A survey of world physical and human geographic patterns. Each world region will be analyzed in terms of its environment and resource distributions, agricultural systems and rural development, population growth and characteristics, and patterns of urbanization and industrial growth. Considerable emphasis will be placed on the non-Western world, issues of sustainable development., and the changing nature of geography. Students will be required to write one research paper on a particular world region of their choice.

3 semester hours

SOCIAL SCIENCES 300

Seminar in Social Science Methods

An introduction to the methods of research and criticism employed in history, economics, anthropology, sociology, psychology, and political science. Social Sciences majors will gain experience in both statistical and interpretative methods that will be useful for their senior thesis. PC access required. Prerequisite: Sophomore standing. Required of Social Sciences majors in the junior year.

3 semester hours

SOCIAL SCIENCES 395

Senior Thesis

Students work individually with their advisors, preferably starting in the second semester of the junior year, to research and write a thesis on a topic related to the social sciences. This topic may be the extension of an idea first developed in the Seminar on Social Science Methods. Prerequisite: SOSC 300. Required of Social Science majors in the senior year.

3 semester hours

SOCIAL SCIENCES 398

Internship

Professional, supervised, unpaid work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.
1-6 semester hours

SOCIAL SCIENCES 399

Independent Study

For the student who wishes to specialize in advanced projects not covered by regular course

offerings. Individual or small group conferences with designated advisor. Prerequisite: Permission of advisor and School Director.
1-6 semester hours

Sociology

SOCIOLOGY 101

Principles of Sociology

Fundamentals of sociological study. Concepts, logic, and methods of sociology. Social interaction and social change in groups, institutions, and society.

Offered: Fall and Spring

3 semester hours

SOCIOLOGY 102

Sociology of Social Problems

Analysis of major problems in modern society; existing methods for dealing with these problems.

3 semester hours

SOCIOLOGY 118

Introduction to Criminal Justice

This course is intended to introduce you to the field of criminal justice and criminology. More specifically, we will explore how the American criminal justice system interacts with society and reacts to societal issues. In turn this will help us understand how society functions in response to the criminal justice system.

3 semester hours

SOCIOLOGY 204

Marriage and the Family

Courtship, marriage patterns, social sexual adjustment. Social interaction within the family. The family and society.

3 semester hours

SOCIOLOGY 231

Cultural Anthropology

Origins and growth of culture. Pattern of culture as related to personality and social structure. Comparative cultures. Prerequisite: SOC 101 or 102; minimum grade C.

3 semester hours

SOCIOLOGY 270

Sociology of Deviance

Specialization into deviance; social typing; deviant subcultures; deviant identity; accommodation to deviance; public and informal regulation of deviance; treatment approaches to deviance; theoretical frameworks. Implications for policy-making. Prerequisite: CJHS 118 or SOC 118; minimum grade C.

3 semester hours

SOCIOLOGY 299

Selected Topics in Sociology

A course with variable topic focus; dependent upon student needs and the expertise of the instructor.

SOCIOLOGY 305

Social Psychology

Prerequisite: PSYC 305.

3 semester hours

SOCIOLOGY 310

Race and Ethnicity

Racial and ethnic stratification; causes and consequences of prejudice and discrimination; problems of assimilation and pluralism; racial and ethnic conflict in the U.S. and in other societies.

3 semester hours

SOCIOLOGY 311

Juvenile Delinquency

Analysis of delinquency causation, methods of treating delinquents, juvenile court procedures, interrelationship of police and youth, and problems of prevention. Prerequisite: CJHS/SOC 118 or SOC 101 or SOC 204.

3 semester hours

SOCIOLOGY 315

Criminology

A critical examination of the conditions under which crime and delinquency occur. Theories of crime and punishment. Treatment of offenders. Prerequisite: CJHS/SOC 118; minimum grade C.

3 semester hours

SOCIOLOGY 316

White Collar Crime

3 semester hours

SOCIOLOGY 348

Religion & Society

A sociological and anthropological analysis of religion as a universal social institution, with emphasis upon theories of the origins of religion, relationships of religion to other social institutions, study of selected Western and non-Western religions in their socio-cultural contexts, religion as a source of social equilibrium and conflict, types of religious movements.

3 semester hours

SOCIOLOGY 355

Globalization

This course examines the phenomenon of globalization as an economic, political, and cultural reality. The focus of lecture and discussion will arise through consideration of treatment

Sport Management • Theatre

of the issue by current social theorists: e.g., Roland Robertson, Peter Berger, Immanuel Wallerstein, Mike Featherstone, Thomas Friedman. Critics of globalization will also be read and considered: e.g., Lourdes Beneira, John Cavanaugh, Joseph Stiglitz.

3 semester hours

SOCIOLOGY 395

Senior Thesis

1-6 semester hours

SOCIOLOGY 398

Internship

1-6 semester hours

SOCIOLOGY 399

Independent Study

For the student who wishes to specialize in advanced projects not covered by regular course offerings. Individual or small group conferences with designated advisor. Prerequisite: Permission of advisor and School Director.

1-6 semester hours

Spanish

SPANISH 101

Elementary Spanish I

In this course students are introduced to the Spanish language and culture of Spanish-speaking countries. Basic skills in speaking, listening, reading, and writing are developed. Cultural readings and videos are included in each lesson giving the students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. This is a course for students with little or no knowledge of Spanish language.

3 semester hours

SPANISH 102

Elementary Spanish II

This course builds on the foundations laid in Spanish 101 and continues to introduce students to the Spanish language and culture of Spanish-speaking countries. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course students are expected to reach a beginner level of Spanish language proficiency and should be able to understand/identify familiar vocabulary and conversation topics; engage in a conversation in a target language on a familiar topic; express opinions/

feelings about a familiar topic; read and comprehend short simple texts; write short simple sentences. Prerequisite: Spanish 101.

3 semester hours

SPANISH 103

Intermediate Spanish I

This course builds on the foundations laid in Spanish 101 and Spanish 102 and provides an opportunity to improve Spanish language proficiency beyond the beginner level. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. Prerequisite: Spanish 102.

3 semester hours

SPANISH 104

Intermediate Spanish II

This course builds on the foundations laid in Spanish 103. Skills in speaking, listening, reading, and writing are further developed. Cultural readings and videos are included in each lesson giving students additional opportunities to utilize target vocabulary and grammar in a classroom conversation. By the end of this course the students are expected to reach an intermediate level of Spanish language proficiency and should be able to understand/identify a range of vocabulary items and topics; engage in a conversation in a target language on a range of topics; express opinions/feelings about a range of topics; read and comprehend medium length texts; write medium complexity sentences. Prerequisite: Spanish 103.

3 semester hours

Sport Management

SM 140

Introduction to Sport Management

This is a foundational course that explores the global nature, historical aspects, trends as well as the role of the sports industry in society. Topics include but not limited to organizational structure, management, public relations, marketing, financial/economic, intercollegiate athletics, legal and ethical principles of sport administration and management.

3 semester hours

SM 200

Ethics in Sport Management

This course examines major ethical theories and their relation to the development of per-

sonal and professional ethics in sport and recreational management. The course is designed to develop a theoretical framework that will lead to a moral course of action and personal philosophy needed to meet the challenges and issues of modern athletics. The application of ethical decision making and problem solving in sport and recreation will be explored. An integrative study of current industry and ethical issues facing sport leaders.

3 semester hours

SM 303

Legal Aspects of Sport Management

This course explores the legal principles of the sport industry and provides a basic knowledge of the legal statuses that relate to various dimensions of sport business. It includes legal principles that affect the prudent performance of all those involved in sporting events and will look at federal legal legislation as it affects program development. Major focus is on a review of judicial opinions in the areas of tort liability (risk management), agency and contract law, labor and employment law and antitrust issues. Topics to be addressed include right to participate, liability for injuries, legal status of sports organizations, risk management, assertion of legal rights, and crisis management. Other areas of sport industry law to be covered are contracts, negligence, gender equity, sport labor relations, and selected current issues.

3 semester hours

SM 304

Sport Facility Management

The purpose of this course is to examine how sports facilities like arenas, coliseums, stadiums, and civic centers are managed. Among the topics covered are financial management, team relations, scheduling events, box office management, personnel management, concessions operations, OSHA standards and merchandising management.

3 semester hours

SPMT 305

Sport Finance

This course is a basic introduction of the Sport Industry from a financial perspective. The course content includes, and is not limited to; current financial status of sports, the valuation of sports teams, sports sponsorship, and government funding of sports. The introduction of budgeting, financial analysis, financial management, financial systems, business structures, and problem solving will satisfy the financial objectives of both the market and the

World Religion

goals of the organization.

3 semester hours

SM 302

Sport Marketing and Promotion

This course will explore the principles and process in sport marketing and promotion. Sport marketing, sport promotion, sport sponsorship, advertising, merchandising, sales function and distribution of sporting goods will be examined in detail.

3 semester hours

SM 301

Sport Event Management

The purpose of this course is to acquire an in-depth knowledge about event management and to become familiar with management techniques and strategies required for successful planning, promotion, implementation and evaluation of special events within a sport context.

3 semester hours

Theater

THEATER 103

Introduction to Western Theatre

The art of the theatre: its literature, structure and aesthetics. Explanation of how each of the elements of theatre - acting, directing, design, playwriting, dramaturgy, and theatre spaces – contribute to the creation of the total production.

3 semester hours.

THEATER 107

Movement for Theatre I

Basics of movement for the stage, focusing on posture, flexibility and strength, as well as expressive use of the body.

3 semester hours.

THEATER 108

Voice and Diction for the Stage

An introduction to basic techniques of voice, speech and diction. Development of a more vibrant and expressive speaking voice through fundamentals of breath, posture, and vocal tract development. Introduction to the International Phonetic Alphabet as a path to correct English pronunciation and easier acquisition of dialects. Body-voice exercises to free body, voice, and breath.

3 semester hours.

THEATER 115

Stagecraft I

Introduction to the theory, techniques, materials and equipment of theatre technology. Emphasis on set construction, scenery rigging, lighting, sound and costume construction.

3 semester hours.

THEATER 120

Stagecraft II

Intermediate work in the theory, techniques, materials and equipment of theater technology. Intermediate work in set design and construction, scenery rigging, lighting, sound and costume construction; introduction to stage management, designing sets, costumes, and lighting.

3 semester hours.

THEATER 133

Fundamentals of Acting

Basic acting techniques, the use of the stage environment, motivation, and intention.

3 semester hours.

THEATER 135

Intermediate Acting

Intermediate acting techniques, the use of the stage environment, scene study and analysis, motivation, intention and character work.

3 semester hours.

THEATER 215

Applied Theatre Production

Students will carry out an assigned cast, crew or staff function in a University mainstage production. Repeatable for credit.

3 semester hours.

THEATER 233

Scene Study

The creative process by which an actor constructs an interpretation are studied in theory and pursued in practice with heavy emphasis on scene work. Repeatable for credit.

3 semester hours.

THEATER 299

Special Topics

Seminar focused on a particular area of dramatic literature. Fulfils the Fine Arts requirement. Repeatable for credit.

3 semester hours.

World Religion

WORLD RELIGION 101

Introduction to Religions

This course introduces students to all major world religions. Religions considered include: Native American oral traditions, Shintoism, Hinduism, Buddhism, Sikhism, Jainism, Tao-

ism, Confucianism, Judaism, Christianity, Islam and Baha'i. Some attention is given to primary religious texts.

3 semester hours

WORLD RELIGION 102

Introduction to Eastern Religions

This course offers students a comparative and historical introduction to Hinduism, Buddhism, Confucianism, and Taoism. Attention is given to primary texts and rituals, historical and doctrinal development, socio-cultural setting and political impact.

3 semester hours

WORLD RELIGION 103

Introduction to Western Religions

This course offers students a comparative and historical introduction to Judaism, Christianity, and Islam. Attention is given to primary texts and rituals, historical and doctrinal development, socio-cultural setting and political impact.

3 semester hours

WORLD RELIGION 204

Hinduism

This course introduces students to the major textual, practical, communal, doctrinal, and philosophical features of Hinduism. Special attention is given to Hindu mythology, the Upanishads, and the Bhagavad-Gita.

3 semester hours

WORLD RELIGION 205

Buddhism

This course introduces students to the major textual, practical, communal, doctrinal, and philosophical features of Buddhism. Special attention is given to Theravada, Mahayana, and Tantric texts.

3 semester hours

WORLD RELIGION 207

Judaism

This course introduces students to the major textual, practical, communal, doctrinal, and philosophical features of Judaism. Special attention is given to the Hebrew Bible (Tanakh) and the Holocaust. Differences among contemporary forms of Judaism (Orthodox, Reform, Conservative, and Reconstructionist) are studied in some detail.

3 semester hours

WORLD RELIGION 208

Early Christianity

This course introduces students to the major textual, practical, communal, doctrinal, and philosophical features of Christianity. Special

World Religion

attention is given to the New Testament. Differences among contemporary forms of Christian community (Roman Catholicism, Orthodoxy, and Protestantism) are studied in some detail.

3 semester hours

WORLD RELIGION 209

Introduction to Islam

This course aims to investigate the historical development of Islam in terms of its beliefs and practices as well as the society and culture that has arisen with it. Ultimately, students should come to understand both the faith itself and the relationship of believers to the world in which they live today. Students will acquire this knowledge through a series of readings and some videos. They will have the opportunity to develop critical thinking skills and show what they have learned by way of writing assignments, discussion boards, and a final project. Special attention is given to primary texts.

3 semester hours

WORLD RELIGION 211

Protestantism

This course addresses the history and the reasons for the rise of Protestantism in Europe in the 16th century. It considers the authority and the role of the Roman Church at the time and looks at how Protestantism gained a foothold in Europe and beyond. By the end of the course, students will be able to: Identify major historical threads which gave rise of European Protestantism; Identify and explain the differences in thought between John Calvin, Martin Luther, Thomas Cranmer, as well as others who came to shape Protestantism in Europe; Describe how Protestantism has come to influence and shape elements of life in our time such as economics, politics, feminism, spirituality, and missions; and Identify the role Protestantism has played in Biblical Science.

3 semester hours

WORLD RELIGION 216/PHILOSOPHY 216

Philosophy of World Religions

A comparison and analysis of the philosophical foundations of some of the world's major religions. Among the religions studied are: Judaism, Christianity, Islam, Hinduism, Buddhism, and Confucianism.

3 semester hours

WORLD RELIGION 221

Religion and Fiction

An introduction to religion and literature, this course will examine ways in which works of fiction (both secular and more overtly religious

narratives) address issues that are intrinsically religious, such as: the relation between human spirit and human nature, the presence of evil and suffering, the need for meaning and personal and communal fulfillment.

3 semester hours

WORLD RELIGION 229

Confucianism

An examination of the major figures, texts, and ideas of Confucianism. Attention is given to social setting and political influence.

3 semester hours

WORLD RELIGION 230

Taoism

An examination of the major figures, texts, and ideas of Taoism. Attention is given to the dialogue with Confucianism.

3 semester hours

WORLD RELIGION 254

Religion and Science

Do science and religion belong to completely separate realms? Can they benefit each other? Will religious conflicts fade as scientific reason sweeps away the cobwebs of bias and superstition? Or will science run out of control without the guidance of religiously inspired ethics? In grappling with such controversial questions, this course examines historical and modern approaches to the relationship between science and religion. Based on a typology, which classifies such approaches as tending towards "conflict," "independence," "dialogue," and "integration," we will examine the work of both religious and scientific thinkers who exemplify these trends or challenge the status quo.

3 semester hours

WORLD RELIGION 273

Global Christianity

Themes of the course include the reasons for the success or failure of Christianity in different contexts; the relationship between religious expansion and the fate of empires; the role of globalization; the impact of culture on belief, practice, and theology; and the changing relationships between the great world faiths.

3 semester hours

WORLD RELIGION 274

Islamic World

This course aims to investigate the historical development of Islamic societies and cultures globally.

3 semester hours

WORLD RELIGION 275

Religion, Conflict Analysis and Mediation

This course examines economic, political, and cultural aspects of religious conflict, and proposes a theory for conflict mediation that entails recognizing the key role played by religious institutions and 'cultural rationality' within society. Models of conflict mediation (Augsberger's Conflict mediation Across Cultures; Avruch's Culture & Conflict Resolution; Said's Peace and Conflict Resolution in Islam; Shrock-Shenk, Making Peace with Conflict: Practical Skills for Conflict Transformation) are studied. These theories are practiced in case studies and class models. The relationship of interreligious and conflict mediation is considered.

3 semester hours

WORLD RELIGION 278

Religion, Peace, and War

This course will explore the contributions of several world religions (typically a combination of Western and Eastern religions; e.g. Buddhism and Islam; Judaism and Hinduism) to issues of peace and war. Topics may include just war theory, pacifism, non-violent forms of resistance, Jihad, and ahimsa. Topics will also be situated within historically significant experiences of the various religions (e.g. consideration of Buddhism in Sri Lanka; the Israeli / Palestinian question).

3 semester hours

WORLD RELIGION 288

Internet Religion

This course examines the impact of the internet on classical religious forms (ideas, practices). In a lab component, we explore whether religious ideas and practices undergo mutation when they are expressed virtually. We set the stage for this topic by examining Religions and the Silks Road, which sets forth the dynamic nature of religious change in the ancient world. Topics include: the nature of change within religious communities; social dimensions of belief and faith-oriented practice; solitary and virtual modes of religious experience; human nature and internet; addiction to virtually; connectivity, self-experience, and orthodoxy.

3 semester hours

WORLD RELIGION 301

World Religious Literature

A Study of primary source readings in world religious literature. Attention is also given to critical research methods. In the course we will read from the Upanishads, Bhagavad-Gita,

World Religion

Dhammapada, Koran, Tanakh, New Testament, and the Analects.

3 semester hours

WORLD RELIGION 305

Comparative Religious Ethics

A comparative study of Hindu, Buddhist, Christian, and Islamic accounts of human rights, ecology, family, violence, and economy. The possibility of developing a universal ethic is considered. Topics vary from semester to semester.

3 semester hours

WORLD RELIGION 312

Religion and Film

This seminar offers an introduction to the study of film and religion. We do not seek to understand how film and religion simply intersect in the medium of visual aesthetics, but how film could perform a religious worldview with distinct set of practices. This class, therefore, serves as a way to understand cinema as representing a religiosity in its own right, and a way of being in the world.

3 semester hours

WORLD RELIGION 345

Calvinism and American Literature

This course studies the extent of Calvinist cultural penetration of American civilization and examines the specific literary evidence linking seventeenth century Puritanism the primary vehicle of Calvinist thought in America and later manifestations of Calvinism in eighteenth and nineteenth century culture. All reading in the course will be in works of intrinsic literary merit.

3 semester hours

WORLD RELIGION 348/SOCIOLOGY 348

Religion and Society

A sociological and anthropological analysis of religion as a universal social institution, with emphasis upon theories of the origins of religion, relationships of religion to other social institutions, study of selected Western and non-Western religions in their socio-cultural contexts, religion as a source of social equilibrium and conflict, and types of religious movements.

3 semester hours

WORLD RELIGION 353

Seminar in American Literature and Civilization

This course is intended to provide a basic familiarity with one of the first and still most significant genres in popular American literature. A study of the origins and formal traditions of the sermon in various American religious

cultures will enable students to experience American civilization from a most intimate and yet social perspective, that of communal worship.

3 semester hours

WORLD RELIGION 366

Psychology and Religion

Both psychology and religion address, in distinct ways, questions about ultimate concerns: love, desire, identity, purpose, and meaning in human life, and how our humanity develops and finds expression in relation to self, others, and the sacred. In this course, we will explore the ways in which psychological and religious experience are interrelated on both the individual and collective levels. Issues to be explored include the Unconscious, faith development, God-images, the body, the psychological power of religious symbols, the difference between submission and surrender, and prayer.

3 semester hours

WORLD RELIGION 373

Islam and Democracy

This course aims to address the following questions: Are Islam and democracy compatible? How is religious interest defined? How are Islamic images and institutions used? What is the historical relationship between Islam and politics? When and under what conditions is Islam publicized and politicized? Is Islam compatible with modernity? Is it possible to be modern and Muslim at the same time? How do Islamic scholars deal with the questions of "difference", democracy, and science? The major task of this course will be to assess how religion makes an impact on politics, state and society and in turn is impacted upon and potentially transformed by society, politics and the state. Instructor's permission may be required for this course.

3 semester hours

WORLD RELIGION 374

Religion and Politics in the Middle East

This course examines the intersection of religion and politics in the current landscape of the societies of the Middle East. While the West has emphasized separation of church and state, numerous nations and political parties in the Middle East emphasize the relationship between the two and the guiding role that religion is meant to play in political decision making. This course also examines the impact that secularization has had upon religion in the Middle East and it notes how

this has played a key role in the development of Islamic militarism and the strengthening of some of the religiously based political parties of the region. Instructor's permission may be required for this course.

3 semester hours

WORLD RELIGION 395

Senior Thesis Seminar

Instructor's permission may be required for this course. Prerequisites: Senior standing, world religions major. Introduction to and preparation of a senior research thesis.

3-6 semester hours

WORLD RELIGION 398

Internship

Professional, supervised, work in an organization related to career goals. Prerequisite: Permission of advisor and School Director.

1-6 semester hours

WORLD RELIGION 399

Independent Study

A course with variable topical foci, dependent upon student request and the expertise of the instructor. Student will work independently to acquire specified and approved research projects and readings under the supervision of a faculty member.

1-6 semester hours

COURSE OF INSTRUCTION

Graduate Programs

Accounting

Courses numbered: 400-499

—Open to graduate students and to qualified undergraduates. [I.E. These are Graduate Classes that are open to qualified undergraduates with departmental permission]

Courses numbered: 500 and above

—Open to graduate students only

Student experience may suggest exceptions are warranted. In those instances, students should consult with their advisors. Deans have authority to approve exceptions.

Some graduate courses are offered every year, but many are scheduled over a two-year or three-year cycle. It is, therefore, essential that graduate students should carefully plan entire programs with their graduate advisors so that they will be able to register for all required courses over the time span in which they expect to complete the degree. The University reserves the right to limit the number of students registered in any graduate course, and also the right to cancel any course for which there is insufficient enrollment.

Accounting

ACCOUNTING 400

Financial Accounting

This course is an introduction to American financial accounting principles based on FASB and IASB, including the measurement, processing, and communication of accounting information. Users of such accounting information include business owners, managers, creditors, prospective investors, and others interested in the financial condition of an entity and the results of its operations. Topics covered include the accounting cycle, merchandising, services, fixed assets and corporate accounting issues. Prerequisite: Admission to graduate study.

3 semester credits

ACCOUNTING 500

Accounting, Business Law & Ethics

The course focuses the fundamentals of Accounting, and also, how the legal and ethical environment of business impacts business decisions. There is an introduction to the basic principles of Accounting: how to account for business transactions. Emphasis on the understanding of how financial statements are prepared, and how they are used as a basis for decision making by business owners, and others interested in the financial condition of

an economic entity and the results of its operations. The Law component introduces how the legal environment of business impacts business decisions with broad ethical, and critical thinking examples throughout. Knowledge of the legal aspects of running a business will enable the student to conduct business within the legal framework and understand the ethical dimension of business decisions. Topics include: Introduction to Business Ethics; Financial Regulation (Sarbanes-Oxley, Dodd-Frank) Business Crimes, Torts, and Contracts; the Constitution and Government Regulation of Business; Business Organizations; Employment and Labor Laws; Consumer Protection and Environmental Regulation; and Ethical Conflicts including Corporate Loyalty v. Whistleblowing, and Privacy and Technology. Broad ethical critical thinking will be examined using legal cases, decisions, essays and articles.

3 semester credits

ACCOUNTING 505

Managerial and Cost Accounting

This course provides an introduction to managerial and cost accounting used by management in conducting daily operations, planning future operations, and developing overall business strategies. The objective is to gain an understanding of the role of accounting in the management process of planning, directing, controlling, and improving the organization's objectives (goals) and to translate those objectives into a course of action. Prerequisites: ACCT 400 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

ACCOUNTING 510

Intermediate Accounting

This course applies generally accepted accounting principles to the preparation of financial statements, including balance sheets, income statements, statement of cash flows, and retained earnings statements. Accounting for leases, employee benefits, deferred taxes and other specialized accounting topics will also be explored. Prerequisites: ACCT 400 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

ACCOUNTING 520

Auditing

This course examines laws and methods for conducting commercial audits. Ethics, attestation standards, controls and fraud detection are among the topics that will be discussed.

Application of generally accepted accounting practices to the review of financial statements, as well as the responsibility of the certified public accountant to the various users of the statements will also be explored. Prerequisites: ACCT 400, ACCT 510 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

ACCOUNTING 530

Personal Taxation

This course is an overview of the major types of personal taxes used by governments to raise revenue. Emphasis is placed on the taxation of individuals and tax planning considerations for the individual. Prerequisites: ACCT 400 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

ACCOUNTING 535

Business Entity Taxation

This course is an overview of the major types of corporate and business entity taxes used by governments to raise revenue. An emphasis is placed on the tax issues of different business forms, tax management and tax planning considerations for the business entity. Prerequisites: ACCT 400, ACCT 530 and completion of all required Accounting concentration courses or concurrent registration in final required concentration courses.

3 semester credits

ACCOUNTING 540

Advanced Financial Accounting

This course is an overview of selected accounting topics of interest to international business students. Topics include current practice in accounting for business mergers or acquisitions, accounting for stock investments in affiliated companies, an introduction to consolidated financial statements, accounting for branch operations and an introduction to accounting for state and local governmental units. Prerequisites: ACCT 400, 510 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

ACCOUNTING 545

Financial Reporting and Analysis

This course is an overview of generally accepted accounting principles underlying the content of financial statements including alternative inventory valuation methods, lease accounting, segment reporting and reporting for employee benefit plans. Students study and

Accounting • Acupuncture

analyze corporate annual reports and government and not-for-profit financial statements. Prerequisites: ACCT 400, ACCT 510, ACCT 540 and completion of all required accounting concentration courses or concurrent registration in final required concentration courses.

3 semester credits

ACCOUNTING 555

Advanced Auditing

This course provides understanding of laws and methods for conducting audits. It includes reviewing the engagement to provide reasonable assurance the audit objectives are achieved. It also includes evaluation of information obtained to reach and to document engagement conclusions including: performing analytical procedures, evaluating the sufficiency and competence of audit evidence and document engagement conclusions, and reviewing the work performed to provide reasonable assurance the objectives are achieved. It also develops proficiency in preparing communications to satisfy engagement objectives including: preparing reports, preparing letters and other required communications, and other related matters. The course prepares students to pass the CPA exam and to do professional audits. Prerequisite: Undergraduate degree and approval of the State of Connecticut to take the CPA exam. Offered Annually

3 semester hours

ACCOUNTING 556

Accounting Regulations

This course provides the required knowledge for accountants in federal taxation and business law. The curriculum provides a working knowledge of federal taxation of individuals, corporations, partnerships, estates and trusts. It covers the concepts of business law, debtor creditor relationships, government securities acts, employment regulations and environmental regulations. It also provides knowledge of professional and legal responsibilities including professional conduct of accountants. The course curriculum includes all of the CPA exam materials. Prerequisite: Undergraduate degree and accounting courses to qualify to sit for the CPA exam. Offered Annually

3 semester hours

ACCOUNTING 557

Business Environment & Concepts for Accountants

This course will provide current knowledge in the business environment as it relates to the accounting profession. By the end of the course the student should have profes-

sional competency in corporate governance, economic concepts and analysis, financial management, information systems and communications, strategic planning and operations management.

3 semester hours

ACCOUNTING 558

Financial Accounting & Reporting

This course provides an in-depth overview of selected advanced accounting topics required in the accounting profession. By the end of the course, the student should have professional competency in performing accounting work related to the four financial statements: balance sheet, income statement, equity statement, and statement of cash flows. In addition, the course will address the issues of partnerships, business combinations, governmental accounting, and non-profit accounting.

3 semester hours

ACCOUNTING 560

International Accounting

This course examines the diverse accounting practices employed by different countries and their effects on multi-national firms' operation, as well as efforts to standardize IASB/FASB rules. Performance evaluation in multi-national enterprises, impact of differences in national accounting principles and practices, and accounting under central planning is also examined. Discussion topics include the critical problem areas such as taxation, transfer pricing, financial planning, and information systems within an international framework. Prerequisites for Accounting: ACCT 400 and completion of all required accounting concentration courses or concurrent registration in final required concentration courses. Prerequisites for International Business: ACCT 400 and completion of all core courses or concurrent registration in final required core courses.

3 semester credits

Acupuncture

Acupuncture Practice and Techniques (APT)

APT 511

Point Location 1

This course will serve as the foundation of the acupuncture point selection series. Meridian theory using concepts of the Jing Luo system, including main and secondary vessels will be

reinforced. This course provides the student with the knowledge and skills to physically locate acupuncture points of the lung, large intestine, stomach and spleen, heart and small intestine, urinary bladder, kidney, and pericardium channels. Students will focus on how to locate points effectively, accurately, and quickly as preparation for clinical application as well as college and national examinations. Students will also learn the major function(s) and indication(s) of the Lung, Large Intestine, Stomach, Spleen, Heart, Small Intestine, Urinary Bladder, Kidney and Pericardium channel points. Co-requisite/Prerequisite: ATD 513 TCM Diagnosis 1, ABS 511 Anatomy 1.

1.5 lecture hours, 1 laboratory hour, 2 semester credits.

Offered: Fall and summer semesters

APT 523

Point Location II

This is a continuation of the previous course and will focus on the Triple Warmer, Gall Bladder, Liver, Governing Vessel ("Du"), Conception Vessel ("Ren") and extra points. Additional instruction is given in regional point selection and point combinations. Prerequisites: ATD 513 TCM Diagnosis 1, ABS 511 Anatomy 1.

1.5 lecture hours, 1 laboratory hour, 2 semester credits.

Offered: Spring and summer semesters

APT 512

Meridian Theory

Meridian (a.k.a. Channel) theory is the basis of diagnosis and acupuncture treatment. This course is designed to provide the necessary instruction and training for the student to be familiar with meridian theory including regular, extra and other meridian systems. Corequisite/Prerequisites: ATD 512 TCM Theory and ATD 513 TCM Diagnosis 1.

2 lecture hours, 2 semester credits.

Offered: Fall and summer semesters

AWB 501

UBAI Clinic Safety Procedures

This course prepares the student for being able to perform in the UBAI clinic. HIPPA, Occupational Safety and Health Administration (OSHA) standards, UBAI clinic specific safety practices and procedures are presented. The student will practice safe and proper needle removal, pole moxibustion, and electrical stimulation needle techniques. The student will be shown and will practice clinic room set and clean-up procedures and patient draping. A review of fire safety and personal safety

Acupuncture

procedures will be offered. Completion of this course and passing the clinic HIPAA and OSHA BBP quizzes is required before performing any duties in the UBAI clinic. Prerequisites: none. *0.5 lecture hours, 0.5 semester credits.*

Offered Fall and Spring semesters.

AWB 521

TCM Safe Practices

This course prepares the student for emergency situations both in and out of the office. CCAOM Clean Needle Technique and a review of Occupational Safety and Health Administration (OSHA) standards are presented. In addition the student will practice safe and proper needling, moxibustion, bleeding, electrical stimulation and cupping techniques. Allopathic treatments along with natural remedies for common complications of acupuncture and related therapies are discussed. CPR certification in emergency procedures is achieved. Prerequisites: none.

1.5 lecture hours, 1.5 semester credits.

Offered: Spring and summer semesters

APT 614

Acupuncture Techniques I

This course covers the basic principles of acupuncture treatment for diseases involved with different pathogenic factors, tissues and organs. Special point selection based on Root-Branch, Origin-End, Path of Qi, Five Element and Eight Parameter diagnoses are covered. Indications and contraindications of moxibustion, scalp acupuncture and electrical acupuncture stimulation are covered. Prerequisites: APT 511 and APT 523: Point Location I and II.

2 lecture hours, 2 laboratory hours, 3 semester credits.

Offered: Fall semester

APT 625

Acupuncture Techniques II

This course covers functions, indications and needling methods of the Well, Spring, Stream, River, Sea, Source, Luo, Xicleft, Back Shu, Front Mu and Lower He-Sea, Eight Influential, Eight Confluent and important crossing points. Continuing practice in needling, moxibustion and cupping techniques is included. In addition, the prevention and treatment of acupuncture complications is covered. Prerequisite: APT 614 Techniques I.

2 lecture hours, 2 laboratory hours, 3 semester credits.

Offered: Spring semester

APT 626

Auricular & Scalp Acupuncture

This course introduces the student to various forms of microsystem acupuncture, focusing on auricular and scalp systems. The student learns the respective maps of the scalp and ear, clinical applications and treatment strategies. Corequisite/Prerequisite: APT 614 Acupuncture Techniques I,

1 lecture hour, 1 semester credit.

Offered: Spring semester

APT 718

Pediatric Acupuncture

The special diagnostic and treatment skills required for the treatment of patients less than 12 years of age are discussed. The balance of safety for the patient and treatment efficacy is emphasized. Prerequisite: ATD 524.

1 lecture hour, 1 semester credit.

Offered: Spring semester

APT 637

Japanese Acupuncture Techniques

This course covers the unique treatment strategies and protocols developed by Japanese acupuncture masters. Prerequisite: APT 614 Acupuncture Techniques I.

1 lecture hour, 1 semester credit.

Offered: Summer semester

Asian Medicine Theory, Diagnosis and Application (ATD)

ATD 511

TCM History and Philosophy

The student studies the different eras of Chinese history and the effects on TCM Medicine theories. This course includes the study of the development of Naturalism, Philosophical and Religious Taoism, Confucianism, and Buddhism and their contributions to Chinese Medicine. For each philosophy, the course examines how the philosophy views the human relationship to nature, and the human relationship to the universe. In addition, the impact of philosophy and religion on the TCM medical paradigm is explored. Prerequisite: none.

1 lecture hour, 0 laboratory hours, 1 semester credit.

Offered: Fall and summer semesters

ATD 512

TCM Medical Theory

This course includes the classic theories of yin and yang and the Five phases that are fundamental to understanding the TCM medical relationship between humans and the universe. Normal physiology is studied through

the fundamental substances (Qi, Blood, Essence, Spirit and bodily fluids), and organs. The basic theory of illness and diagnosis using four examinations (sight, listening and smelling, palpation, and asking) and Eight parameters are covered. Prerequisites: Anatomy and Physiology.

2 lecture hours, 2 semester credits.

Offered: Fall semester

ATD 513

TCM Diagnosis I

The basic theory and characteristics of the pathogenesis and pathogenic factors are covered including the seven emotions, disharmony of Yin and Yang, abnormalities in Qi, Blood, Spirit, Essence and Bodily fluids, and organ disharmonies are covered. Techniques in inquiry, palpation, tongue and pulse diagnosis are covered. Diagnoses incorporating the eight parameters as well as root and stem concepts are covered for each of the twelve zang-fu. Prerequisite/Co-requisite: ADT 512 TCM Medical Theory.

2 lecture hours, 2 semester credits.

Offered: Fall semester

ATD 524

TCM Diagnosis II

This course will provide the student with further understanding of TCM Medicine diagnosis, expanding on concepts from TCM Diagnosis I. Traditional Chinese Medicine organ diagnoses, eight principle and febrile disease diagnoses will be stressed. In addition, treatment principles and acupuncture treatments based on these diagnostic systems will be explored. Differential diagnoses of common disease entities will be explored. Students will also continue to practice pulse and tongue diagnosis. Prerequisite: ADT 513 TCM Diagnosis 1.

2 lecture hours, 2 semester credits.

Offered: Spring semester

ATD 515

Seminar 1

This course will help the student to negotiate their first year in the Acupuncture program. The student will be guided through overviews of Chinese Medicine as preparation for integrating material from the entire curriculum. The student will review and update Chinese Medical terminology as well as the range of resources and the different perspectives on this terminology and the concepts contained therein. Diagnostic practical skills such as pulse and tongue diagnosis will be reviewed in a practical group setting. In addition the student will apply concepts of information

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literacy and its use for analysis of case studies.
Prerequisites: ATD 513.

1 lecture hour, 1 semester credit.

Offered: Spring semester

ATD 526

Seminar 2

This course will be a continuation of seminar one. The student will be guided through the application and integration of concepts and skills acquired in the first and second semester curricula. The student will apply these through the use of case studies and clinical examples. The basics of applying diagnosis and generation of treatment principles will be reinforced in a collegial setting. Group activities such as case analysis, pulse and tongue analysis and grand rounds will also be reviewed with a deepening understanding of clinical applications of such. Prerequisites: ATD 515.

1 lecture hour, 1 semester credit.

Offered: Fall semester

ATD 617

Second Year Seminar 1

This course will help the student understand case study and to begin learning the skills necessary to become an AOM clinical practitioner. The student will be guided through case study and case analysis as utilized in clinical practice as preparation for integrating material from the entire curriculum into the clinical setting. Case presentations and clinical skills are emphasized through a problem based learning format using TCM principles as the foundation. In addition, the student will gain a basic understanding of the ethical and legal issues surrounding licensed practice in the field of acupuncture. Prerequisites: ATD 526.

1 lecture hour, 1 semester credit.

ATD 618

Seminar 3

This course will be a continuation of the second year seminar one. The student will be guided through the application of case analysis, integrative patient care, diagnostic, assessment and treatment application skills acquired in clinical observation and the first year's curriculum. The student will begin applying these through analyzing clinical cases. Advanced applications in 8-parameter, 5-element, zang-fu, wen bing and shan han lun diagnosis and treatment principles will be reinforced in a collegial setting using interdisciplinary case analysis and grand rounds. Prerequisites: ATD 617.

1 lecture hour, 1 semester credit.

Offered: Fall semester

ATD 711

Differential Diagnosis and Pathomechanisms

This course compares and contrasts diagnosis and treatment between Western and TCM diagnoses. Western medical diagnosis of these diseases is incorporated so that the student is able to collaborate with western physicians. Major and common categories of diseases including respiratory tract, infectious, gastrointestinal, genitourinary and musculoskeletal diseases are covered. Prerequisite: ATD 513 TCM Diagnosis I.

2 lecture hours, 2 semester credits.

Offered: Fall and summer semesters

ATD 715

TCM Internal Medicine

This course focuses on the diagnosis and TCM treatment of major illness. Treatment planning includes acupuncture, qi gong, and massage. Diagnoses cover respiratory illnesses, gastrointestinal, genitourinary, gynecological, and psychological illnesses. Root-stem. Meridian, Substance and 5 Element treatments are included. Prerequisite: ATD 513 TCM Diagnosis I.

2 lecture hours, 2 semester credits.

Offered: Fall semester.

ATD 717

Advanced Tongue and Pulse Diagnosis

This course is designed to increase the diagnostic skills and clinical applications of these uniquely TCM diagnostic parameters. The student studies healthy and diseased tongues and pulses and discusses how findings in these areas change the treatment principles and strategies. Case studies from the clinical rotations are used to increase both depth and breadth of skill. Prerequisite: ATD 524: TCM Diagnosis II.

1 lecture hour, 1 semester credit

Offered: Spring semester

ATD 727

Case Studies 1

The student will be guided through case study, case analysis and pattern differentiation as utilized in clinical practice as preparation for integrating material from the entire curriculum into the clinical setting. Case presentations and clinical skills are emphasized through a problem based learning format using TCM principles as the foundation. Emphasis for this class is on cases associated with problems of fluid dynamics, meridian diagnoses and chronic pain, which are frequent chief complaints in the TCM clinical setting. Prerequisite: ATD 526.

1 lecture hour, 1 semester credit

Offered: Spring semester

ATD 728

Case Studies 2

Students learn to transition from the development of pattern diagnosis to TCM treatment principles which then lead to point and modality applications. Emphasis is placed on an accurate assignment of symptoms to pattern diagnosis; logical treatment principles reflecting the priorities and totality of the patterns diagnosis; and the most efficacious acupuncture point and adjunctive modality prescriptions to help the patient achieve health. Prerequisite: ATD 524 TCM Diagnosis II.

1 lecture hour, 1 semester credit.

Offered: Fall and summer semesters

ATD 729

Acupuncture Gynecology

This course is designed to familiarize the student with TCM diagnosis and acupuncture treatments of common gynecologic conditions. Special emphasis is placed on understanding those points forbidden to needle or moxa in cases where the patient's pregnancy status is unknown. Prerequisite: ATD 524: TCM Diagnosis II.

1 lecture hour, 1 semester credit.

Offered: Fall and summer semesters

ATD 742

TCM Geriatrics

This course is designed to familiarize the student with TCM diagnosis and acupuncture treatments that apply to elderly patients. Special emphasis is placed on understanding the physiological changes that affect the health of the elderly from both a TCM and biomedical perspective. Acupuncture and herbal treatments, their indications and contraindications will be discussed. Prerequisites: ATD 524 TCM Diagnosis 2, ATD 728 Case Study 2, ACH 635 CH Formulae 1.

1 lecture hour, 1 semester credit

Western Biomedicine (AWB)

ACS 511

Evidence-Informed Clinical Practice in Acupuncture

The basic principles of clinical and laboratory research are examined with a special emphasis on the applications of acupuncture and TCM techniques in the research setting. Application of research to case evaluation will be emphasized. Prerequisite: none.

1 lecture hour, 1 semester credit.

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Offered: Fall semester

AWB 621

Medical Ethics

This course is designed to provide the student with a basic understanding of the ethical issues surrounding practice in any medical field. Upon completion of this course, the student will be able to identify concepts of medical and professional ethics as they apply to the practice of health care. Prerequisite: none.

1 lecture hour, 1 semester credit.

Offered: Spring semester

ABS 511

Anatomy 1

This course provides an in-depth study of the macroscopic human anatomy and covers the structure of the trunk and neck regions. Clinical aspects of the vascular and neurological relationships of these regions are emphasized. Instruction includes lectures and interactive media software. Prerequisite: none.

4 lecture hours, 4 semester credits.

Offered: Fall semester

ABS 522

Anatomy 2

This course is a continuation of Anatomy 1 and covers the structure of the head and extremities. Clinical aspects of the neurological and vascular relationships of these regions is emphasized. Prerequisite: ABS 511 Anatomy 1.

4 lecture hours, 4 semester credits.

Offered: Spring semester

ABS 515

Physiology 1

This course emphasizes the function of cellular structures which regulate homeostasis as well as their role in cell division and genetic control of protein synthesis. Emphasis is placed on the role of the cell membrane in the control of cellular events. The effects of physiology on hormones, their role in homeostasis, and the functional changes associated with homeostasis are considered. Prerequisite: none.

2 lecture hours, 2 semester credits.

Offered: Fall semester

ABS 525

Physiology 2

This course is a study of physiology at the organ and systems level. Included is the study of the circulatory, respiratory, renal, cardiovascular, gastrointestinal and urogenital systems. Also included is the study of the endocrine system and its interrelationships with various organs and systems. There is an integration of

normal physiology with pathophysiology and clinical concepts. Prerequisite: ABS 515.

2 lecture hours, 2 semester credits.

Offered: Spring semester

AWB 523

Pharmacology

This course examines the most commonly used pharmacologic agents to be encountered in the clinical setting. The general principles of pharmacology (pharmacodynamics and pharmacokinetics) are covered. Uses and side effects of antibiotics, anti-inflammatory agents, hormones and cardiac drugs are surveyed. Drug-nutrient and drug-herb interactions are discussed. Prerequisite: none.

1 lecture hour, 1 semester credit.

Offered: Spring semester

AWB 522

Research Methodology

The basic principles of clinical and laboratory research are examined with a special emphasis on the applications of acupuncture and TCM techniques in the research setting. Prerequisite: none.

1 lecture hour, 1 semester credit.

Offered: Fall semester

ACS 611

Pathology 1

This course is a study of the pathophysiological process and how this process alters the gross, microscopic and clinical manifestations of disease. Basic pathological processes of inflammation, repair, degeneration, necrosis, immunology and neoplasia are presented. Prerequisite: ABS 525 Physiology 2.

2 lecture hours, 2 semester credits.

Offered: Fall semester

ACS 624

Pathology 2

This course is the continuation of the pathological processes of various diseases. This course emphasizes the basis of systemic diseases of the cardiovascular, respiratory, gastrointestinal, urogenital, endocrine, hepatobiliary, renal and pancreatic systems. Prerequisite: ACS 611 Pathology 1.

4 lecture hours, 4 semester credits.

Offered: Spring semester

ACS 612

Clinical Diagnosis 1

This course covers the techniques used for physical examination for various systems of the body. Skills taught develop an appreciation for normal variations and abnormalities associated with disease states. The student is taught to recognize the signs and symptoms of common diseases. Prerequisites: ABS 511, ABS 522, ABS 515.

3 Lecture hours, 2 lab hours, 4 semester credits.

Offered: Fall semester

ACS 623

Clinical Diagnosis 2

This course is a continuation of Clinical Diagnosis 1. Prerequisite: ACS 612.

3 lecture hours, 2 lab hours, 4 semester credits.

Offered: Spring semester

ACS 724

Public Health

This course covers current environmental and public health concerns with an emphasis on the role of the acupuncturist in these issues. The course integrates health with diet, water and air pollutants, noise and substance abuse. Recognition of major communicable diseases is included. Prerequisite: ABS 525 Pathology 2.

2 lecture hours, 2 semester credits. (online course)

Offered: Spring semester

ACS 613

Lab Diagnosis

This course introduces the student to the appropriate use and interpretation of laboratory tests. Prerequisites: ABS 511 and ABS 525.

2 lecture hours, 2 semester credits.

Offered: Fall semester

ANT 521

Western Nutrition

This course provides the foundation for therapeutic nutrition. It explores the biochemistry of macronutrients as well as vitamins and minerals. Deficiencies, toxicities, therapeutic uses and appropriate doses are examined. An assessment of dietary needs and the application of therapeutic nutrition in treating individual diseases and syndromes are also taught. Prerequisites: none.

2 lecture hours, 2 semester credits.

Offered: Spring semester

ACS 711

Diagnostic Imaging

This course covers radiographic anatomy and diagnostic imaging techniques. A basic introduction to imaging, including roentgenology, computerized tomography (CT), magnetic resonance imaging (MRI), ultrasound, and bone

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scanning are discussed. The basic concepts of these techniques and their use in diagnosis are discussed. Prerequisites: Anatomy 2, Physiology 2.

ACS 625

Physical Exam Skills

This course helps students develop the skills necessary to conduct screening physical exams and specialty exams useful in the ambulatory practice. The student will learn the appropriate exam and physical diagnostic procedures that correspond with the patient's chief complaint and medical history. Clinical decision making and identification of clinical red flags are emphasized. Physical examination skills: Cardio, Chest/Pulmonary, Abdomen/GI, Neuro, General screening exam, physical exam of the spine, physical exam of the major joints (shoulder, elbow, hip, knee, foot). Prerequisites: ABS 525 (can take Clinical Dx 1 & 2 in either order).

ACS 626

Laboratory Diagnosis 2: Nutritional and functional analyses

This course will educate the student on nutritional assessment to include health, diet and lifestyle history, physical measurements, and laboratory testing to include analysis of blood, stool, saliva and urine. The course will integrate use of these measurements in the design of an appropriate nutritional protocol for the client. The student will also learn effective client management and follow-up. Prerequisites: Clinical Dx 1, Lab Dx 1.

AVB 725

Pharmacology 2

This course builds on the basic information in Pharmacology 1 to expand the student's understanding of pharmacology, including mechanisms of action; absorption, distribution, metabolism, and excretion (pharmacokinetics/pharmacodynamics); interactions with other drugs and with herbs/food; problems with special populations (prenatal, neonatal, elderly); rational drug usage for clinical disorders (therapeutics); clinical effects of drugs (by category); and toxicology.

Herbal Medicine Survey (AHM)

AHM 521

Botanical Medicine 1

This course comprises a survey of plant and plant preparations most commonly used in Western traditions. The actions of the plant

and plant products, as well as drug-herb interactions are considered.

3 lecture hours, 3 semester credits.

Offered: Fall semester

AHM 599

Homeopathy for Acupuncturists

The course will survey the basic theoretical principals upon which homeopathic practice is based as well as survey homeopathic remedies commonly used in acute care. Safety, legal and manufacturing issues will also be highlighted.

2 lecture hours, 2 semester credits.

AHM 613

Traditional Chinese Dietetics

This class introduces the student to the eastern understanding of how food influences human health. Foods and food products are surveyed according to Asian categorization. Food groups are categorized by nature, temperature, taste, element, indications and contraindications. Treatment of the major categories of organ (zang-fu) disorders using foods and food combinations are covered. Prerequisite: ADT 524.

2 lecture hours, 2 semester credits.

Offered: Fall semester

AHM 612

Introduction to Chinese Herbal Remedies

This survey course introduces the student to the diagnostic and treatment strategies specific to TCM herbal therapies. The student is introduced to major herbs and formulas of China, their uses, contraindications and drug-herb interaction. Patient safety issues are also addressed. Prerequisite: ATD 524.

1 lecture hours, 1 semester credit.

Offered: Fall semester

AHM 713

Patent Remedies

This course will survey over 150 prominent, TCM, topical and internal herbal, patent formulas. Students will be introduced to pattern-specific uses of these formulas and subsequently, their contraindications, toxicities and potential drug interactions. Safety, legal, and manufacturing issues will also be highlighted. Prerequisite: AHM 612: Introduction to Chinese Herbal Remedies.

2 lecture hours, 2 semester credits

Offered: Spring semester

AHM 634

Dispensary Management

This course will develop knowledge and skills related to TCM dispensary management. Students will learn best practices for successfully

and legally running a Chinese herbal dispensary. Combining lecture and experiential learning, students will become acquainted with dispensing practices, proper record-keeping, inventory management, and safety protocols for a well-organized TCM dispensary. Prerequisites: none

1 lecture credit, 18 hours.

Offered: Summer semester

AHM 635

Pharmacognosy and Pharmacology of Chinese Herbs

Chinese material medical are often prescribed in complex formulae. Understanding the chemistry, interactions, extraction methodology, and drug interactions allows TCM practitioners better insights to possible adverse effects, from drug-herb interactions, herb toxicities to lack of expected (or any) outcomes from prescribed formulae. Several recorded incidents of adverse reactions have occurred to Chinese herbs over the past 12 years. In most cases, the incidents have involved multiple patients consuming the same or similar substance, rather than isolated case reports. It is important to review the unique aspects of Chinese medicine which are of relevance to understanding these issues. Prerequisites: ACH 523 Chinese Herbal Theories & Triple burner theories.

1 lecture credit, 18 hours.

Offered: Summer semester

AHM 616

Ethical and Ecological Considerations of Chinese Materia Medica

The traditional practice of using endangered species (plant and animal) is controversial within TCM. Comprehensive Chinese herbal textbooks often discuss substances derived from endangered species, emphasizing alternatives. Poaching and black market issues with animal products, particularly tiger bone, rhinoceros horn, seahorse and bear bile have all raised ethical and ecological concerns in the use of Traditional Chinese formulae. In this course, we will discuss the ethical and ecological impacts of TCM materia medica on the health of the individual and the world. Prerequisites: none

1 lecture credit, 18 hours

Offered: Fall semester

Movement, Respiration and Bodywork Studies (AMR)

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AMR 511

Taijiquan 1

This introductory course in therapeutic movement teaches the proper musculoskeletal alignment, breathing, and mental awareness affect the energy pathways by direct experience through practice of this traditional exercise. Prerequisite: none.

1.5 laboratory hours, 1 semester credit.

Offered: Fall semester

AMR 522

Taijiquan 2

This course is a continuation of Taijiquan 1. In addition to more advanced Taijiquan exercises for Qi circulation, the student learns basic application of Chinese therapeutic movement to the clinic setting. Prerequisite: AMR 511 Taijiquan 1.

1.5 laboratory hours, 1 semester credit.

Offered: Spring semester

AMR 613

Qigong 1

The student learns basic Qigong theory and techniques designed to regulate specific meridians, muscles, joints, and zangfu, as well as how to choose, integrate, and teach the appropriate exercises in a clinic setting. Prerequisite: AMR 522 Taijiquan 2.

1.5 laboratory hours, 1 semester credit.

Offered: Fall semester

AMR 624

Qigong 2

This course is a continuation of Qi Gong 1. The student learns advanced exercises, meditations, and breathing exercises that can be applied both to the clinic setting as well as to the student's personal experience and development of Qi toward the goal of being a more effective TCM practitioner.

1. 1.5 laboratory hours, 1 semester credit.

Offered: Spring semester

AMR 627

Tuina 1

The student learns basic Tuina manipulation theory and techniques to treat acupoints, channels, and soft tissue as well as Qigong conditioning exercises that allow the student to implement Tuina manipulation safely and effectively. The course culminates in learning a Tuina full-body therapeutic protocol.

1 lecture hour, 2 laboratory hours, 2 semester credits.

Offered: Summer semester

AMR 715

Tuina 2

This course is a continuation of Tuina 1. The student learns intermediate Tuina manipulation theory and techniques to treat acupoints, channels, and soft tissue. Tuina treatments for back pain and conditions of the upper limb are the primary focus. Prerequisite: AMR 627 Tuina 1.

1 lecture hour, 2 laboratory hours, 2 semester credits.

Offered: Fall semester

AMR 726

Tuina 3

This course is a continuation of Tuina 2. The student learns advanced Tuina manipulation theory and techniques to treat acupoints, channels and soft tissue. Tuina treatments for the leg and internal conditions are the primary focus. Prerequisite: AMR 715 Tuina 2.

1 lecture hour, 2 laboratory hours, 2 semester credits

Offered: Spring semester

Counseling, Communications and Practice Management

APS 621

Psychological Assessment

The primary focus of this course is the diagnosis of the various psychiatric diseases according to the Diagnostic and Statistical Manual of Mental Disorders. Included are psychological assessment considerations and treatment modalities. Prerequisites: none.

2 lecture hours, 2 semester credits

Offered: Spring semester

APP 721

Practice Management

Students are taught the current procedural practices for the operation of a private practice. In addition, the practical aspects of operating a practice as a small business are discussed. Students are encouraged to begin thinking about their personal career path as a complementary medicine practitioner in private practice, group practice, hospital-based practice or as an TCM educator. Prerequisites: none.

2 lecture hours, 2 semester credits.

Offered: Spring semester

APP 722

Professional Development

This course will explore the issues associated with ongoing professional development. Professional development assists the AOM practitioner to develop the knowledge and skills

necessary to further clinical competence and contribute to the body of knowledge in the field during practice after graduation. Prerequisites: ACS 731 Clinic Entry 1, ACS 631 Clinic 1. *1.5 lecture credits, 0 lab credits, 1.5 credits total*

ACH: Asian/Chinese Herbology

ACH 511

Chinese Formula and Constituents 1

The student will explore the traditional Chinese Medicine Materia Medica in depth and learn to discriminate between herb categories, their general applications and associated Treatment Principles and individual, unique applications, signs and symptoms. The student will explore at least 100 herbs. This course will focus on herbs from the Release Exterior, Clear Heat, and Drain Downwards categories. In addition at least 10 representative formulae that reflect these categories will be investigated. This course will serve as partial basis for the formulae courses. Prerequisites: satisfactory progress in first year curriculum from MSTCM program.

2 lecture credits, 36 hours

Offered: Fall semester

ACH 512

Chinese Formulae and Constituents 2

The student will explore the traditional Chinese Medicine Materia Medica in depth and learn to discriminate between herb categories, their general applications and associated Treatment Principles and individual, unique applications, signs and symptoms. The student will explore at least 100 herbs. This course will focus on Herbs from the Regulate Qi, Regulate and Invigorate Blood, Warm Interior and Expel Cold, Tonify (Qi and Blood) categories. In addition at least 10 representative formulae that reflect these categories will be investigated. This course will serve as partial basis for the formulae courses. Prerequisites: ATD 524 TCM Diagnosis II.

2 lecture credits, 36 hours

Offered: Fall semester

ACH 523

Chinese Formulae & Constituents 3

The student will explore the traditional Chinese Medicine Materia Medica in depth and learn to discriminate between herb categories, their general applications and associated Treatment Principles and individual, unique applications, signs and symptoms. The student

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will explore at least 100 herbs. This course will focus on Herbs from the Drain Damp, Transform Phlegm and Stop Cough, Aromatic Herbs that Transform Damp, Food Stagnation categories. In addition at least 10 representative formulae that reflect these categories will be investigated. This course will serve as partial basis for the formulae courses. Prerequisites: satisfactory progress in first year curriculum from MSTCM program. prerequisites: ACH 512
2 lecture credits, 36 hours

Offered: Spring semester

ACH 524

Chinese Formulae and Constituents 4

The student will explore the traditional Chinese Medicine Materia Medica in depth and learn to discriminate between herb categories, their general applications and associated Treatment Principles and individual, unique applications, signs and symptoms. The student will explore at least 100 herbs. This course will focus on Herbs from the Tonify (Yang and Yin), Stabilize and Bind, Calm Shen, Aromatic Substances to Open Orifices, Extinguish Wind and Stop Tremors, Expel Parasites, External Applications categories. In addition at least 10 representative formulae that reflect these categories will be investigated. This course will serve as partial basis for the formulae courses.

Prerequisites: ACH 512

2 lecture credits, 36 hours

Offered: Spring semester

ACH 635

CH Formulae 1

This course will be a continuation and amplification of the previous herbal curriculum (ACH 511, ACH 512, ACH 523, ACH 524) with an emphasis on herbal formulae. The student will explore at least 30 formulae including reiterating and expanding content from previous courses. This course will focus on formulae that Release the Exterior, Clear Heat, and Drain Downward. The student will learn the name, actions, indications, cautions and contraindications of the classical base formulae according to the traditional categorization based on treatment principles. In addition the student will explore the traditional structure of herbal formulae as a prelude to formula modification (general, assistant, etc.). In addition the student will review and reiterate content from the Formulas and their constituents courses. Prerequisites: ACH 511, ACH 512, ACH 523

2 lecture credits, 36 hours

Offered: Summer semester

ACH 636

Chinese Formulae 2

This course will be a continuation and amplification of the previous herbal curriculum (ACH 511, ACH 512, ACH 523, ACH 524) with an emphasis on herbal formulae. The student will explore at least 30 formulae including reiterating and expanding content from previous courses. This course will focus on formulae that Harmonize, Dispel Summerheat, Warm Interior Cold, Release Exterior-Interior Excess, and Tonify. The student will learn the name, actions, indications, cautions and contraindications of the classical base formulae according to the traditional categorization based on treatment principles. In addition the student will explore the traditional structure of herbal formulae as a prelude to formula modification (general, assistant, etc.). Prerequisites: ACH 511, ACH 512, ACH 523, ACH 524

2 lecture credits, 36 hours

Offered: Summer semester

ACH 617

Chinese Formulae 3

Course Description: This course will be a continuation and amplification of the previous herbal curriculum with an emphasis on herbal formulae. The student will explore at least 80 formulae including reiterating and expanding content from previous courses. This course will focus on formulae that Stabilize and Bind, Calm the Spirit, Open the Sensory Orifices, Regulate Qi, Regulate Blood, Expel Wind, Treat Dryness, Expel Dampness, Dispel Phlegm, Reduce Food Stagnation, Expel Parasites, Treat Abscesses and Sores, and for External Application. The student will learn the name, actions, indications, cautions and contraindications of the classical base formulae according to the traditional categorization based on treatment principles. In addition the student will explore the traditional structure of herbal formulae as a prelude to formula modification (general, assistant, etc.) In addition the student will review and reiterate content from the Formulas and their constituents courses. Prerequisites: ACH 635

2 lecture credits, 36 hours

Offered: Fall semester

ACH 628

CH Internal Medicine & Modifications 2

This course will serve as a companion course to ACH 619. This course will be a continuation and amplification of the previous herbal curriculum with an emphasis on internal medicine applications of herbal formulae. The student will reexamine previously studied herbs and formulae from previous courses with special attention to clinical application and formula

modification according to clinical presentation. Prerequisites: ACH 619, 2 lecture credits, 36 hours. Prerequisites: ACH 617

2 lecture credits, 36 hours

Offered: Spring semester

ACH 619

CH Internal Medicine & Modifications 1

This course will be a continuation and amplification of the previous herbal curriculum with an emphasis on internal medicine applications of herbal formulae. The student will reexamine previously studied herbs and formulae from previous courses with special attention to clinical application and formula modification according to clinical presentation. Prerequisites: ACH 636

2 lecture credits, 36 hours

Offered: Fall semester

ACH 641

CH Special Topics

This course will explore special topics in TCM herbal medicine. These will include but not be limited to dui yao (herb combinations and modules), external applications, pediatrics, classical formulae from seminal texts. Content will also reflect the availability of special guest lecturers. Prerequisites: ACH 619

2 lecture credits, 36 hours

Offered: Spring semester

ACC: Clinical Education

ACC 611

Chinese Herbal Clinic 1

Under the supervision of licensed faculty members, the interns start by observing patients for 20 clinic hours, then move into the area of direct patient care. All patient diagnoses and management plans are reviewed and approved by a clinic faculty member prior to the initiation of patient care. The student will begin to prescribe individual herbs and formulae for patient care. The student will acquire proficiency in TCM diagnostic techniques, as well as in understanding when specific herbs or formulae may not be prescribed based upon possible herb-drug interactions. Prerequisite: *0 lecture hours, 4 lab credits, 130 clock hours total.*

Offered: Fall, spring and summer semesters

ACC 632

Chinese Herbal Clinic 2A

Students continue to administer Chinese herbal care to patients under the supervision of licensed faculty. Students are monitored as

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to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Eligibility for the course is successful completion of the previous clinical rotation. Prerequisite: ACC 611 Chinese Herbal Clinic 1.

0 lecture hours, 2 lab credits, 65 clock hours total.

Offered: Fall, spring and summer semesters

ACC 723

Chinese Herbal Clinic 2B

Students continue to administer Chinese herbal care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. In addition to utilizing prepared formulae, student interns now begin to mix herbal powders in individualized formulae. Eligibility for the course is successful completion of the previous clinical rotation. Prerequisite: ACC 611 Chinese Herbal Clinic 1. Pre/Co-Requisite ACC 632 Chinese Herbal Clinic 2A.

0 lecture hours, 2 lab credits, 65 clock hours total.

Offered: Fall, spring and summer semesters

ACC 724

Chinese Herbal Clinic 3

Students continue to administer care to patients under the supervision of licensed faculty. Students will integrate herbal therapies with dietary advice and qi enhancement techniques. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Eligibility for the course is successful completion of the previous clinical rotation. Prerequisite: ACC 723 Chinese Herbal Clinic 2B.

0 lecture hours, 3 lab credits, 100 clock hours total

Offered: Fall, spring and summer semesters

0 lecture hours, 4 laboratory hours, 2 semester credits, 75 clock hours total.

Offered: Fall, spring and summer semesters

ACS 722

Preceptorship II

This is a continuation of ACS 711. Students increase their clinical skills working under a variety of health care professionals, all of whom must have the appropriate credentials to practice in the field of acupuncture. Prerequisite: ACS 671.

0 lecture hours, 4 laboratory hours, 2 semester credits, 75 clock hours total.

Offered: Fall, spring and summer semesters

ACS 631

Clinical Education 1

Under the supervision of licensed faculty members, the interns start by observing patients for 30 clinic hours, then move into the area of direct patient care. All patient diagnoses and management plans are reviewed and approved by a clinic faculty member prior to the initiation of patient care. The student will begin to practice clean needle technique, removal and disposal of needles. The student will acquire proficiency in tongue and pulse diagnosis. Prerequisite: Pass Clinical Entrance Exam.

0 lecture hours, 12 laboratory hours, 8 semester credits, 245 clock hours total.

Offered: Fall, spring and summer semesters

ACS 712

Clinical Education 2

Students continue to administer care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Eligibility for the course is successful completion of the previous clinical course. Prerequisite: ACS 631 Clinical Education 1.

0 lecture hours, 12 laboratory hours, 8 semester credits, 215 clock hours total.

Offered: Fall, spring and summer semesters

ACS 714

Clinical Procedures 2

This course explores the clinical applications of the skills and knowledge learned to date for patient care in multi-disciplinary care clinics and hospital settings. Prerequisites: ACS 731 Clinical Procedures 1, AIC 631 Clinic 1.

2 lecture credits, 0 lab credits, 2 credits total

ACS 715

Physical and Functional Assessments of the UB Health Sciences

This course is designed to teach the student general principles and practices of health care from the breadth of providers trained at the University of Bridgeport. The naturopathic, chiropractic, nutrition, dental hygiene and physician assistant history and scope of practice will be discussed. Practical applications of these disciplines in the area of physical and functional assessment of patients will be emphasized. Prerequisites: Clinical Dx 2, Lab Dx 1.

ACS 723

Clinical Education 3

Students continue to administer care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Eligibility for the course is successful completion of the previous clinical course. Prerequisite: ACS 712 Clinical Education 2.

0 lecture hours, 12 laboratory hours, 8 semester credits, 220 clock hours total.

Offered: Fall, spring and summer semesters

ACS 811

Grand Rounds 1

This course is designed to train the AOM student to communicate effectively, orally and in writing, with patients and their families, colleagues, and others with whom health-professionals must exchange information in carrying out their responsibilities in patient care. Prerequisites: ACS 714 Clinic Entry 2; ATD 715 TCM Internal Medicine; ACC 611 Chinese Herb Clinic 1. Co-requisite: AIC 812 Integrated Clinical Education 1.

2 lecture credits, 0 lab credits, 2 credits total

ACS 823

Grand Rounds 2

This course is designed to train the advanced AOM student to communicate with other health care providers to determine an appropriate plan of care. This includes the ability to assess written diagnostic reports, including the range of values that distinguish normal from abnormal findings, as relevant to patient care and communication with other health care providers. Upon completion, the student will be able to discuss the clinical scope of AOM in an informed, authoritative, and appropriate manner. Prerequisites: AIC 811 Grand Rounds 1; Co-requisite: AIC 814 Integrated Clinical Education 2.

Acupuncture • Biology

2 lecture credits, 0 lab credits, 2 credits total.

ACS 812

Integrated Clinical Education 1

Rotations in the Integrative clinic shifts combine AOM supervisors for AOM diagnosis and treatment with biomedical practitioners and other clinicians offering medical care in a variety of health settings. Students administer care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Prerequisites: ACS 712 Clinical Education 2; ACC 632 Chinese Herbal Clinic 2A

215 hours; 150 patient visits; at least 90 hours in off-site clinics

ACS 814

Integrated Clinical Education 2

This is a continuation of the integrative clinical training started in ACS 812. Rotations in the Integrative clinic shifts combine AOM supervisors for AOM diagnosis and treatment with biomedical practitioners and other clinicians offering medical care in a variety of health settings. Students continue to administer care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Prerequisites: ACS 712 Clinical Education 2; ACC 632 Chinese Herbal Clinic 2A. AIC 812 Integrated Clinical Education 1.

215 hours; 150 patient visits; at least 90 hours in off-site clinics

Artificial Intelligence

ARTIFICIAL INTELLIGENCE 500

Graduate/Co-op Internship in Computer Science

1-3 semester hours

Biology

BIOLOGY 400

Advanced Biochemistry

This course will cover the principles of biological chemistry, describe the structure, synthesis, degradation and properties of amino acids and proteins. The principles of enzymology and proteomics, lipid synthesis, degradation, function and lipidomics, mechanisms of carbohydrate metabolism including: glycolysis,

gluconeogenesis, tricarboxylic acid cycle, the electron transport chain, photosynthesis, pentose phosphate pathway, and glycogen metabolism, will be covered. The techniques used to identify, characterize, and isolate biological molecules will be discussed. Prerequisite: Biology 345 or equivalent.

3 semester hours

BIOLOGY 402

Evolution

Genotype to phenotype mapping, population genetics, molecular evolution, detection of selection, association mapping, human evolution. Prerequisite: Biology 101 and Biology 102.

3 semester hours

BIOLOGY 403

Histology

Detailed analysis of the microscopic structure of animal cells and tissues. Laboratory work limited to study of prepared microscopic material. Prerequisite: Biology 211.

3 class periods; 1 three-hour laboratory periods; 3 semester hours

BIOLOGY 404

Tissue Culture

Introduces graduate students and qualified undergraduate students to the preparation and process of culturing animal cells and cell lines in a laboratory. With a major focus on routine maintenance and record-keeping, including media preparation, cryopreservation, applications of tissue engineering, and troubleshooting common culture problems. Prerequisite: Biology 321 or equivalent.

3 semester hours

BIOLOGY 407

Microbial Genetics

The focus of this course is on modes of genetic transfer, plasmids and mobile genetic elements. Classical and recent molecular techniques used in prokaryotic research will be emphasized. Prerequisite: Biology 307 and Biology 320 or equivalent.

3 semester hours

BIOL 415

Animal Nutrition

An extensive study of the nutrient requirements of animals during their life cycle under various physiological and pathological conditions. Furthermore, the physiological and biochemical bases of nutrition in farm and laboratory animals with emphasis on metabolic pathways leading to inherited diseases in humans and

animals will be covered. Animal nutrition has great scientific, social, and economic significance.

3 semester hours

BIOLOGY 418

Environmental Health

This course is designed to explore current environmental and public health concerns and issues. Students will gain an understanding of the interaction of individual and communities with the environment, the potential impact on health of environmental agents. The sequence of major topics begins with environmental epidemiology and toxicology, policy and regulation. The course then covers specific agents of environmental diseases. Domains of environmental health are addressed. Prerequisites: Biology 101 and Biology 102.

3 class periods; field trips by arrangement, 3 semester hours

BIOL 421

Advanced Cell Physiology

A graduate lecture course exploring the fundamentals of the cell. This course will emphasize key topics related to our knowledge of molecular and cellular biosciences. Students will focus on critical thinking and problem solving to understand the science of the cell.

3 semester hours

BIOLOGY 423B

Biostatistical Analysis

Statistical analysis with application to biological science. Includes applications of probability, classifications of data, averages, dispersion, frequency distributions, confidence intervals, tests of significance, linear regression, and correlation. Prerequisite: Mathematics 323. May be taken concurrently.

1 semester hour

BIOLOGY 423

Advanced Ecology

Students will read classic and recent ecological literature in ecology. At the completion of the course students will prepare a literature review or research proposal. Prerequisite: Biology 223 or equivalent.

3 semester hours

BIOLOGY 424

Physiological Ecology

Students will read recent literature across a range of topics in physiological ecology. At the completion of the course students will prepare a literature review or research proposal. Prerequisite: Biology 223 and Biology 211 or equivalent.

Biology • Biomedical Engineering

3 semester hours

BIOLOGY 430

Marine Ecology

Examination of the ecology of the oceans, relation of distribution to the physical and chemical environments, productivity of the marine communities and the interaction of man with marine communities. Prerequisite: Biology 223.

3 lectures, 1 three-hour lab, 4 semester hours

Lab Fee Assessed

BIOLOGY 441

Cell Molecular Immunology

A three credit-hour lecture course that will cover the molecules, cells and organs of the immune system. Students will study the structural features of the components of the immune system and their functions. Emphasis of the course will be given on the mechanisms involved in immune system development and responsiveness. Prerequisites: Biology 211.

3 semester hours

BIOLOGY 443

Advanced Molecular Biology

The study of genes and their activity at the molecular level, DNA replication and repair, transcription, translation, recombination, translocation, and mutations. Techniques and experiments leading to important discoveries on DNA will be covered. Prerequisites: Biology 345 or Biology 343 or equivalent

3 semester hours

BIOLOGY 444

General Toxicology

An advanced course designed for the toxicology student interested in broadening her/his knowledge into the sciences of toxic agents (poisons) and their effect on biological systems and the environment. The relevance of chemical and biological properties of toxic agents to human health, and the biotransformation reaction of certain chemical agents will be discussed. The course will cover in detailed the toxic effects, at the molecular, cellular, organ and system level, resulting from exposure to xenobiotics. The course content will cover all aspects of toxicology: The General Toxicological Principles, Disposition of Toxic Agents, Non-organ Directed Toxicity, Target Organ Toxicity, Toxic Agents, Environmental Toxicology and Applications of Toxicology. Prerequisite: Biology 211 and Chemistry 206.

3 semester hours

BIO 445

Advanced Methods in Molecular Biology

A graduate laboratory course exploring the fundamental skills required by molecular biology and biotechnology. This course will emphasize key methodologies utilized in both biotechnology industries and molecular biology research by focusing on a semester-long molecular project involving PCR-based mutagenesis, cloning, DNA sequencing, and protein analysis.

3 semester hours

BIOLOGY 446

Env't Toxicology

Students will broaden their knowledge of environmental toxic agents (physical, chemical, biological) and their effect on biological systems and the environment. The relevance of chemical and biological properties of toxic agents to human health, and the biotransformation reaction of certain chemical agents will be discussed. The course will cover in detailed the physical-chemical properties and their toxic effects, at the molecular, cellular, organ and system level, resulting from exposure to environmental pollutants. Prerequisite: Biology 344 or equivalent.

3 semester hours

BIOLOGY 470

Research Rotation

This course is given in the Spring semester and consists of sequential laboratory experiences in each of two separate research laboratories.

1 semester hour

Laboratory fee: \$60 per semester

BIOLOGY 479

Bioinformatics

Students will design and develop algorithms for biological problems such as data mining, and analysis of nucleic acid, protein, and genomic datasets. Students will work with popular bioinformatics algorithms to understand design methodology and identify the potential weaknesses in traditional bioinformatics algorithms. Prerequisite: Mathematics 423B and Biology 345 or equivalent.

3 semester hours

BIOLOGY 480

Selected Topics

Modern courses in diverse areas of faculty specialization within the biological sciences. Prerequisites to vary with the course and instructor, permission of the instructor required.

1-4 semester hours

BIOLOGY 490

Departmental Seminar

Enrollment and attendance at this seminar is

required of all students. Presentations by invited speakers from University of Bridgeport, other universities, and research institutions.

1 semester hour

BIOLOGY 491

The Gut Microbiome

This course covers complex host-microbial interactions that are essential for health. Disturbing the relationships triggers a wide variety of diseases such as obesity and diabetes. Factors perturbing the gut microbes include dietary changes, drugs, stress, surgical intervention and the environment. Prerequisite: Biology 320 or the equivalent.

3 semester hours

BIOLOGY 493

Bioelectric Phenomena

The course will review and investigate a variety of bioelectric phenomena, including origins and operations of trans-membrane potentials in excitable cells, their propagation between and among cells, their dissemination among various conductive tissues and different body fluid compartments and their measurement within the body or at the body surface. Also considered will be the generation, conduction and propagation of electrical or electromagnetic fields within and beyond the body and the interaction of such fields with ionizing and non-ionizing radiation generated naturally as well as by present and developing technology, with emphasis on health effects of such interactions. Prerequisite: Biology 213, Biology 214, or Biology 211 or equivalent.

3 semester hours

BIOLOGY 498

Internship

The student will complete internship in a research or clinical facility, with departmental approval.

3 semester hours

BIOLOGY 499

Master's Research

Supervised research leading to the preparation and completion of a thesis in partial fulfillment of the master's degree requirements. Students enrolled in the thesis program must complete six credits of master's research.

3 semester hours

Laboratory fee: \$60 per semester

BIOLOGY 500

Maintaining Matriculation

Domestic students not registered for other courses must register for Biology 500 until the completion of the degree requirements.

Biomedical Engineering

No credit

Biomedical Engineering

BIOMEDICAL ENGINEERING 410 (BMEG 410/ELEG 410)

Biosensors

This course will provide an overview of biosensors, including their use in pharmaceutical research, diagnostic testing, and policing the environment. Topics include the fabrication, characterization, testing, and simulation. The transducer phenomenology, biosensor structure, and sensor performance will also be covered.

3 semester credits

BIOMEDICAL ENGINEERING 412 (BMEG 412/ELEG 412)

Bioelectronics

Discipline of biomedical Engineering has emerged due to integration of engineering principles and technology into medicine. This course is intended for engineers and engineering students interested in pursuing career in biomedical engineering and health related filed. This course will first introduction Applications of electrical engineering principles to biology, medicine, behavior, or health will be identified during first half of the semester. Second half of the course will focus on research, design, development and application of biosensors and Bioelectronics.

3 semester credits

BIOMEDICAL ENGINEERING 413

Bioinformatics

Biology has become target of more algorithms than any other fundamental science. This course is about designing and developing algorithms for biological problems. Students will work with popular bioinformatics algorithms not only to understand algorithms design mythologies but also to identify strengths and potential weaknesses in traditional bioinformatics algorithms.

3 SEMESTER CREDITS BIOMEDICAL ENGINEERING 443
(BMEG 443/ELEG 443)

Digital Signal Processing

This is an introductory course in Digital Signal Processing (DSP) for graduate Electrical and Computer Engineering students. Sometime will be spent initially reviewing major concepts in signals and systems. Major topics to be covered in ELEG 443 include: time-domain analysis of discrete-time (DT) systems (convolution, difference equations), the transform, frequency analysis for DT signals and systems

(DTFT, DFT, FFT), digital filter design, and selected advanced topics as time permits.

3 semester credits

BIOMEDICAL ENGINEERING 448

Microfabrication

This class covers basic microfabrication processes for semiconductor and VLSI fabrication, including photolithography, plasma and reactive ion etching, ion implantation, diffusion, oxidation, evaporation, vaporphase epitaxial growth, sputtering, and CVD. Advanced processing topics such as next generation lithography, MBE and metal organic CVD are also introduced. The physics and chemistry of each process are introduced along with descriptions of the equipment used for the manufacture of integrated circuits. The integration of micro-fabrication process into CMOS, bipolar, and MEMS technologies are also discussed. The purpose of this course is to provide students with technical background and knowledge in silicon microelectronic fabrication process. Upon finishing this course, students will be familiar with the basic semiconductor and VLSI microfabrication processes.

3 semester credits

BIOMEDICAL ENGINEERING 451

Introduction to Nanotechnology

Nanotechnology is the science and engineering involved in the design, synthesis, characterization and application of materials and devices with the size in nanometer (10-9m) scale. As a newly emerged exciting high-technology, it has attracted intensive interest and heavy investments around the world. Nanotechnology is a general-purpose technology which will have significant impact on almost all industries and all areas of society. It can offer better built, longer lasting, cleanser, safer and smarter products for home, communications, medicine, transportation, agriculture and many other fields. This course will cover basic concepts in nanoscience and nanotechnology.

3 semester credits

BIOMEDICAL ENGINEERING 453

Pattern Recognition

Operation and Design of systems that recognize patterns in data, based primarily on statistical and neural network approaches. Topics include Bayesian decision theory, Electrical Engineering Parametric likelihood estimation, Nonparametric techniques, Linear discriminant functions and Neural Networks.

3 semester credits

BIOMEDICAL ENGINEERING 454

Speech Signal Processing

To introduce the fundamentals of speech processing and related applications. Course covers speech enhancement, speech coding, and speech recognition.

3 semester credits

BIOMEDICAL ENGINEERING 459

Audio Processing Lab

Introduction to TMS320C55x Digital signal Processor, Audio Signal Processing, Basic Principles of Audio Coding, Speech Enhancement Techniques, Quantization of Audio signals, Calculating LPC coefficient using C55x Intrinsic, Matlab Implementations of noise Reduction (NR), Mixed C55x Assembly and Intrinsic Implementations of Voice Activity Detection (VAD), Combining AEC with NR, Voice over Internet Protocol Applications, Overview of CELP Vocoders.

3 semester credits

BIOMEDICAL ENGINEERING 460

Introduction to Robotics

Introduction to the kinematics, dynamics, and control of robot manipulators and to applications of artificial intelligence and computer vision in robotics.

3 semester credits

BIOMEDICAL ENGINEERING 464

PC Lab

This course will start with the basics of Boolean Algebra; it will cite the differences between PLC control and relay control and full automation of major machines and appliances; the differences in these controls will show how hard relay control is to implement and how flexible PLC control actually is; many different math functions will be analyzed and implemented in the theoretical construction of fully functioning PLC.

3 semester credits

BIOMEDICAL ENGINEERING 466

Found DNA and Biotechnology

The Focus of the course shifts towards the scientific foundation of genetic data and the human genome and investigates contemporary issues.

1-3 semester hours

BIOMEDICAL ENGINEERING 467

Introduction to Mechatronics

Introduction to Mechatronics, Definition of Mechatronics, Mechatronics in factory, office and home automation. Overview of Microprocessors, Micro controllers and microcomputer

Biomedical Engineering

systems, Hardware and software, Assembly level and higher level programming.

3 semester hours

BIOMEDICAL ENGINEERING 470

Advanced Robotics

Advanced robotics and automation topics and techniques, including: active robotic sensing, intelligent and integrated manufacturing systems, robotic inspection, observation under uncertainty, multisensor feedback control of manipulators and mobile robots, advanced simulation and monitoring of robotic systems, high level modeling and control, and other topics.

3 semester hours

BIOMEDICAL ENGINEERING 500

Graduate Co-op/Internship in Biomedical Engineering

Students will work for a company in a role that is appropriate for an MS-BMEG graduate, or near graduation. Through this experience students will apply biomedical engineering principles and theory in a practical setting. The student will write a paper summarizing the tasks and accomplishments encountered within the organization, as well as make engineering recommendations for improvement of the biomedical engineering process in the company, or division in which s/he was employed. By Arrangement.

1-3 semester hours

BIOMEDICAL ENGINEERING 508 (BMEG 508/MEEG 508)

Biomechanics

Biomechanics is the application of mechanical principles to living organisms that included bioengineering, research and analysis of mechanism in living organisms, and application of engineering principles to and from biological systems. This course can be carried forth on from the molecular level including collagen and elastin, all the way up to the tissue and organ level. Some simple applications of Newtonian mechanics can supply approximations on each level, but precise details demand the use of continuum mechanics.

3 semester credits

BIOMEDICAL ENGINEERING 510 (BMEG 510/ELEG 510)

Medical Machines

This course, provides very good introduction and understanding of Electrical Safety, Medical electronics and Medical Machines as applicable. Students often have different background and level of understanding of technical concepts; therefore we will develop necessary background in this course in first few weeks

and gradually move from basic to advance topics as listed below in "Class Topics" section. This course will further help by developing approach to design devices and safety features. Behind every invention, law or device, there is always a need, a necessity. Students go from necessity to invention in the class. Since large number of electronic equipments are being used in hospitals and medical centers for patient care and diagnosis or carry out advanced surgeries. This course will enable students to learn the basics principles of different instruments used in medical science.

3 semester credits

BIOMEDICAL ENGINEERING 512 (BMEG 512/MEEG 512)

Computational Fluid Dynamics (CFD)

Computational fluid dynamics (CFD) is employed in a wide range of industries and disciplines, such as aerospace engineering, automotive engineering, biomedical science and engineering, chemical engineering, civil engineering, power engineering and sports engineering. Practicing engineers are constantly facing extreme challenges to solve complex fluid flow and heat transfer problems using commercial CFD software. To avoid flawed CFD simulation and results interpretation using commercial CFD packages by users with inadequate training, understanding the fundamental principles that underlie commercial CFD solvers can help the users to effectively harness the power of modern CFD for their research or design. This course is intended as an introduction to the scientific principles and practical engineering applications of CFD. It combines lectures on the CFD principles with projects of research or industrial applications. The emphasis of this course is not to teach the theory behind the CFD techniques, but to help the students apply the knowledge gained into practical use of commercial CFD software (COMSOL, ANSYS and/or STAR-CCM+).

Students will first learn the complete CFD process from modeling and approximation, mesh design, computation, to results interpretation through lectures and case studies. The necessary theoretical background in fluid mechanics and heat transfer will be covered in these case studies. Tutorials will be provided to show how to set up, run and interpret the results of CFD models in a commercial code, COMSOL. Students will then work in a project team to solve selected research or industrial fluid flow and/or heat transfer problems in their own field (such as mechanical systems, electronics systems, or biomedical systems) using CFD.

3 semester credits

BIOMEDICAL ENGINEERING 513 (BMEG 513/ELEG 513)

Biomedical Image Processing

This course is an elective course. The content of this course include the fundamentals of Digital Image Processing and its applications in biomedical field. Sampling and Quantization of signals are mentioned in order to introduce the digital images, some basic relationship between pixels are mentioned. Introduction to Fourier Transformation, Discrete Fourier Transform and Fast Fourier Transformed are explained. MATLAB programming with Image Processing Toolbox will be introduced to empathize and rigid the understanding of students. Others important fundamental theorems, e.g., Image Enhancement, Image Segmentation, Representation and Description are also mentioned. Students are required to implement some programs using the theorems learnt in classes.

3 semester credits

BIOMEDICAL ENGINEERING 515

Advanced Digital Systems

The objective of this graduate level course is to introduce the modern design methodologies for digital logic and automatic synthesis of digital systems. Students are provided with access to the CAD tools to use hardware description language to model, analyze and design various digital circuits/systems. It is expected that students will acquire a clear understanding of the main techniques, design strategies and the optimizations that are involved in modern digital circuit modeling, design and synthesis. The course projects will include the design and optimization of advanced critical digital systems used in bio-related applications.

3 semester credits

BIOMEDICAL ENGINEERING 517

NMR in Biomedical engineering

A noninvasive imaging method that provides information about cellular activity (metabolic information). It is used in oncology along with magnetic resonance imaging (MRI) which provides information about the shape and size of the tumor (spacial information). Also called ¹H-nuclear magnetic resonance spectroscopic imaging and proton magnetic resonance spectroscopic imaging.

3 semester credits

BIOMEDICAL ENGINEERING 532

Melanogenesis/Melanomagensis: Implicatio

3 semester credits

BIOMEDICAL ENGINEERING 535 (BMEG 535/TCMG 535)

Biomedical Engineering

Foundations of Biotech Sciences and Management

This course defines biotechnology as the application of molecular biology for useful purposes. It simulates the real world science and business environments: Information and knowledge are complex, highly specific, fragmented, diverse and vast. No one individual or group or business entity or government agency is able to cover in-depth the entire science and business continuum to succeed and create value to society at large. Value creation has three different aspects: data, information and knowledge assimilation, degree of collaboration and methodology to establish successful knowledge management and business processes. The continuum of the biotechnology industry is shaped by scientific, legal, regulatory, social, economic, technological, political, financial and commercial factors. Understanding the dynamics and linked contributions of the interdisciplinary array of factors which affect commercialization of bioscience discoveries is essential to operate in the biotechnology industry. In this course we are dissecting the biotechnology industry to isolate the key drivers and study their interactions.

3 semester credits

BIOMEDICAL ENGINEERING 543

Advanced DSP

(1)review briefly the concepts of DSP (E443), including digital filter design and windowing (2) Carry on with new topics in Adaptive Filters, Wiener Filters, Kalman filters, power spectrum and related topics, statistical signal processing, and stochastic processes.

3 semester credits

BIOMEDICAL ENGINEERING 543

DSP Lab

This is an introductory course in Digital Signal Processing (DSP) for graduate Electrical and Computer Engineering students. Sometime will be spent initially reviewing major concepts in signals and systems. Major topics to be covered in ELEG 443 include: time-domain analysis of discrete-time (DT) systems (convolution, difference equations), the transform, frequency analysis for DT signals and systems (DTFT, DFT, FFT), digital filter design, and selected advanced topics as time permits.

3 semester credits

BIOMEDICAL ENGINEERING 546 (BMEG 546/ELEG 546)

Biosignal Processing

This is an introductory course in Bio-Signal Processing (DSP) for graduate Electrical and

Computer Engineering students. Sometime will be spent initially reviewing major concepts in signals and systems. Major topics to be covered in ELEG 546 include: Concepts of signal and image processing, wavelets, classification and clustering, and applications of these concepts to EEG, ECG, EMG, MRI and CT Scans.

3 semester credits

BIOMEDICAL ENGINEERING 547

Bio MEMS

BioMEMS is the application of MEMS (Micro-electromechanical Systems) technology in the fields of biomedical and health sciences. Due to their small size, BioMEMS have the advantages of low weight, low cost, quick response, high throughput, high efficiency, requiring much less sample.reagent and easy Integration. BioMEMS found broad applications in disease diagnosis, prevention and treatment. Various BioMEMS products have been developed, such as microfluidic devices, neural interface devices, uTAS, lab-on-a-chip, DNA chips, micro drug delivery system, microsurgical tools, bio-sensors. This course introduces to students the fundamentals of BioMEMS technology, typical bioMEMS devices and their applications.

3 semester credits

BIOMEDICAL ENGINEERING 555

Biotechnology & Entrepreneurship

This course covers theory and practice of bio-entrepreneurship. It explores the transformative and disruptive nature of scientific discoveries and the innovative and entrepreneurial process for turning knowledge into profitable business. Students are required to develop and communicate in-depth knowledge on the evolution of the biotechnology industry and the behavior of entrepreneurial biotechnology firms to build core competencies and acquire funding. Individual and team projects and case studies are integrated into the course.

3 semester hours

BIOMEDICAL ENGINEERING 561 (BMEG 561/ELEG 561)

Instrumental Analysis of Nanomaterials

The course will give an over view on several important analytical tools for nano materials characterization. Mechanical, electrical and electronic and biological property testing of the nano materials such as carbon nanotubes, metal nanoparticles, quantum dots, nanowires conformable nanoelectronics materials, polymer nanoparticles and biomedical nanomaterials will be discussed. Process and product evaluation by physical, chemical and microscopic methods for materials in nano-regime

will be highlighted. Modern materials science depends on the use of a battery of analytical methods carried normally in specialized laboratories. This course explains the fundamental principles associated with the various methods and familiarize the students with them, their range of applicability and reliability especially when materials are of nanoscopic dimension.

3 semester credits

BIOMEDICAL ENGINEERING 562 (BMEG 562/ELEG 562)

Nanofabrication with Soft Materials

This is an advanced level graduate course focusing on fabrication of soft materials. Nanofabrication processes and nanosystem products will be discussed. Fundamentals associated with chips fabrications and linking them toward soft materials assembly will be detailed. Emerging nanotechnology based methods for soft and green electronics, mechanical parts, MEMS, PCBs will be covered. Gene chip, label free sensory assay using micro and nano-fluidics will be discussed. Transfer printing, DNA-protein interactions using the chip and several nano-scale assemblies for soft materials fabrication will be discussed.

3 semester credits

BIOMEDICAL ENGINEERING 563

Polymer Nanocomposites

This is a graduate level course that emphasizes on the structure property and functions of nanocomposites based on polymers and other biomaterials toward biomedical, mechanical and electrical property driven device applications.

Various examples of smart materials, their fabrications, and the use in understanding biophysical and biochemical processes are discussed.

3 semester hours

BIOMEDICAL ENGINEERING 565 (BMEG 565/ELEG 565)

Biomedical Materials and Engineering

This course introduces the students with the progress of biomaterials used in biomedical engineering. Starting from early civilizations biomaterials this course discusses modern advanced level biomaterials and their engineering principles associated with their biomedical use. Hip, knee Prostheses, implants, grafts, sutures, stents, catheters materials and their application in Biomedical Engineering are covered. Designed biomaterials such as silicones, polyurethane, Teflon, hydrogels, bionano composites are detailed. Modern Biology and biomedical engineering such as protein absorption, biospecific medical materials, nonfouling materials, healing and foreign body reaction,

Biomedical Engineering • Business Capstone

controlled release etc are discussed. Surface-immobilized biomolecules in patterned surfaces are explained with specific examples of the use of immobilized biomolecules, immobilized cell ligands, and immobilization methods. Recent advances in biomedical engineering from the perspectives of inkjet printing of cells and tissues for 3D-medical textiles, nanofibers and films in biomedical engineering by electrostatic spinning, bio-inspired materials through layer by layer (LBL) assembly and biogels and advanced instrumentations in biomedical engineering are updated. Artificial red blood and skin substitutes, orthopedic biomaterials applications adhesives and sealants, diagnostics, biomedical sensors, extracorporeal artificial organs and ethical issues of biomedical engineering are discussed.

3 semester credits

BIOMEDICAL ENGINEERING 567

Physiological Fluid Mechanics

There is a great and vital difference between the transport processes in the human body from other engineering systems. A thorough understanding of physiological fluid mechanics is essential for innovation in biomedical technology. Emphasis in the course is placed on flow and thermal mechanics of biofluids, measurement methods, modeling for engineering application, and understanding application to biomedical problems including assist and monitoring devices.

3 semester hours

BIOMEDICAL ENGINEERING 573

Magneto Bio-Engineering

Magneto Bioengineering is a fast-developing field of research , its practical and environmental aspects being a topic of ever-increasing number of applications encompassing the field of biomedical engineering including but not limited to MRI) magnetic Resonance Imaging), magnetic therapy, neural stimulation, magnetic field treatment for nonunion (fractures that fail to heal) and so on. At the same time, physically, the biological effects of weak magnetic fields or Extremely Low Frequency (ELF) magnetic fields are still regarded as a paradox. This course deals with such issues and fills in the theoretical gap in biomedical engineering. It reviews and analyzes the experimental evidence that yields useful insights into the primary physical processes of magneto-reception and the frequency and amplitude spectra of the action of weak magnetic fields in living system and hence the course addresses important issues in biomedical engineering. Also,

the course reviews the available hypothetical mechanisms for that action as applicable to the field of biomedical engineering. Besides this the presence of magnetic crystal s in certain species of prokaryotes as well as in birds (for migration) and in humans is still under active investigation and is also covered in this course as a possible way of exploiting such information for application in biomedical engineering.

BIOMEDICAL ENGINEERING 580

Tissue Engineering

The objective of this course is to provide students a foundation for the understanding of cell based systems needed for tissue engineering. The structure-property-function relationships in normal and pathological mammalian tissues will be covered. A review of the current development of biological substitutes to restore, maintain, or improve functions that includes strategies to regenerate metabolic organs and repair structural tissues, as well as cell-based therapies to deliver proteins and other therapeutic drugs will be discussed. There are a variety of very important materials issues in tissue engineering, which will be discussed in detail. Cells adherence to the extracellular matrix materials in the body and their enormous effect on cell behavior will be detailed. The physical and chemical properties of these materials will be examined and important materials used in tissue engineering will be discussed.

3 semester credits

BIOMEDICAL ENGINEERING 587

Embedded Systems Design

Design of systems having major hardware and software components. Software implementations are used to control specific hardware such as micro controllers. Major laboratory emphasis to realize embedded systems.

3 semester credits

PROJECT/THESIS EXTENSION (BMEG 596)

Extension of the continued research thesis work

(Lecture hours and topics to be arranged with instructor).

1 semester hour

BIOMEDICAL ENGINEERING 620A/620B

Thesis I

This course must be taken in your last semester of course work or later. This is a team based project. Teams with members from both the life sciences and the quantitative sciences are strongly encouraged. You may have more than one advisor, but one faculty member needs to be identified as the primary advisor. Your

capstone project may be based on a single project or multiple projects. Each project, however, must be experimental or simulation in nature and be interdisciplinary. The project results should be publishable in peer reviewed journals. All projects must be approved by the University's BME program committee prior to student enrollment in the BME 620 course.

BIOMEDICAL ENGINEERING 620B

Thesis II

This course must be taken in your last semester of course work or later. This is a team based project. Teams with members from both the life sciences and the quantitative sciences are strongly encouraged. You may have more than one advisor, but one faculty member needs to be identified as the primary advisor. Your capstone project may be based on a single project or multiple projects. Each project, however, must be experimental or simulation in nature and be interdisciplinary. The project results should be publishable in peer reviewed journals. All projects must be approved by the University's BME program committee prior to student enrollment in the BME 620 course. Prerequisite: BEMG 620A.

Business Capstone

BUSINESS CAPSTONE 597

Integration and Application: Strategy

This is a capstone course dealing with the development and implementation of business strategy and planning within a framework of ethical decision-making, globalization and managing accelerating change. The student is tested on his/her capability to apply all prior learning to solve actual strategic management problems. The final project of this course is project-based, and shall constitute an outcome assessment of what the student has learned in the MBA program. This project, normally an extensive and comprehensive case study, will be graded by several faculty members representing different and relevant disciplines. Prerequisites: Completion of all core and required courses and completion of all Major courses or concurrent registration with final Major courses. Normally, students enroll toward the end of their MBA program.

3 semester credits

BUSINESS CAPSTONE 595

Independent Study

This course is reserved for a special project that cannot be done in any other course format and is intended to allow a student complete

Business Communications • Business Law • Chiropractic

his/her MBA requirements. Students will study a topic approved by their professor and present a substantial written report regarding the topic. Prerequisite: Completion of core courses and required Major courses. Written approval to register by the supervising professor and the Assistant Dean are required. This course is normally taken towards the end of the student's MBA program.

3 semester credits

BUSINESS CAPSTONE 598

Integration and Application: Thesis

Students will complete a report based on field, library and institutional research to demonstrate ability to conduct investigations in a managerial discipline. The topic of the report may concern any business issue, industry or organization and may be related to the student's current or future employment. Prerequisites: Completion of all Major courses or concurrent registration with final Major courses. This course should be taken in the final semester of a student's MBA program and approval of the student's faculty advisor is required.

3 semester credits

BUSINESS CAPSTONE 599

Integration and Application: Internship

This course should be taken towards the end of the student's program of study and requires the approval of the student's faculty advisor.

3 semester credits, 1 semester credit, 1 semester credit

Business Communications

BUSINESS COMMUNICATIONS 400

Business Written Communications

The purpose of this course is to improve the ability of students to effectively communicate with a variety of writing techniques. Students will not only learn and practice grammatical principles, but also learn to present tables and graphs, and to organize and coherently structure their written reports. Prerequisites: Admission to graduate study.

3 semester credits

Business Law

BUSINESS LAW 400

Legal Environment of Business and Ethics

Students course focuses on how the legal environment of business impacts business decisions with broad ethical, international, and

critical thinking examples throughout. Knowledge of the legal aspects of running a business will enable the student to conduct business within the legal framework and understand the ethical dimension of business decisions. Topics include: Introduction to Business Ethics and the Judicial and Legislative Process; Litigation, Alternative Dispute Resolution, and the Administrative Process; Business Crimes, Torts, and Contracts; the Constitution and Government Regulation of Business; Business Organizations; Employment and Labor Laws; Consumer Protection and Environmental Regulation; and International Law and Ethical Conflicts. Prerequisites: Admission to graduate study.

3 semester credits

Chiropractic

Anatomy

AN511

Cell and Tissue Microscopic Anatomy and Physiology

This course will focus on the study of the microscopic anatomy and physiology of cells and basic tissue type. A major emphasis will be placed on connective, neural and muscular tissue. A working knowledge of the microscopic structure and function of the basic tissue types will provide a framework for understanding how the organization of the tissue contributes to organ and organ system physiology.

3 lecture hours, 3 semester hours

AN512

Functional Anatomy and Biomechanics I: Spine

This course addresses the functional anatomy and biomechanics of the spinal column, ribs and pelvis. Emphasis is placed on the interrelationships between the structure and function of the spinal column and its surrounding anatomical structures. Biomechanical principles are incorporated into functional anatomy of a dynamic human musculoskeletal system. Instruction includes lecture, dissection, tutorials, prosection and models.

3 lecture hours, 3 laboratory hours, 4.5 semester hours

AN513

General Anatomy I: Viscera

This course focuses on the anatomy of the organs plus the structure of the muscles, bones and additional tissues of the walls of the human thoracic and abdominopelvic cavities. The neurological, vascular and positional relationships of these organs are discussed with emphasis on the clinical applications. Instruction includes lectures and laboratory with dissection and prosection, osseous structures and models.

3 lecture hours, 3 laboratory hours, 4.5 semester hours

AN514

Clinical Embryology

Embryology covers the fertilization and structural development from the zygote to birth. This course correlates the embryological development with other courses offered in Semester I and II. Normal development, clinical correlations and common congenital abnormalities are presented. Emphasis is placed on the skeletal, muscular and nervous systems.

1 lecture hour, 1 semester hour

AN525

General Anatomy II: Head and Neck

This course focuses on the anatomy of the head, including the gross anatomy of the brain and special sense organs, and neck. The neurological and vascular relationships of these regions are discussed with emphasis on clinical applications. Instruction includes lectures, laboratory dissection and prosection and models. Prerequisites: AN511, AN512, AN513, AN514.

3 lecture hours, 3 laboratory hours, 4.5 semester hours

AN526

Functional Anatomy and Biomechanics II: Extremities

This course is a regional exploration of the appendicular system. Bones, muscle attachment and function, vasculature and innervation are discussed. Emphasis is on understanding function based on attachment and innervation. Relevant clinical problems are presented. Instruction includes lecture, full dissection of pectoral girdle, pelvic girdle, and extremities, presentation of prosections, study of bones and models. Prerequisite: AN513.

3 lecture hours, 3 laboratory hours, 4.5 semester hours

AN527

Embryology II

1 lecture hour, 1 semester hour

Biochemistry

BC511

Biochemistry, Metabolism and Nutrition: I

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This course covers the biochemical principles involved in maintaining functional homeostasis.
2 lecture hours, 2 semester hours

BC612

Biochemistry, Metabolism and Nutrition: II

This course is a continuation of BC511. Prerequisite: BC511

2 lecture hours, 2 semester hours

Business Procedures

BP721

Documentation and Insurance Protocols (Billing and Coding)

The successful student will be able to identify and discuss all of the important aspects of patient communication, medical documentation and insurance protocols/coding. In addition, the successful student will be able to identify and apply appropriate billing protocols regarding filing insurance claim forms.

1 lecture hour, 1 credit hour

BP722

Business Procedures and Marketing

This is a business procedures course that stresses the importance of ethical and legal business management procedures. The class room discussions cover strategic management, chiropractic and health care economics, marketing and image building. Successful completion will prepare the student to enter chiropractic practice.

1 lecture hour, 1 credit hour

BP812

Small Business Management

2 lecture hour, 2 credit hour

BP813

Starting a Chiropractic Practice and Office Management

At the completion of this course, the successful student will have a clear understanding and knowledge of the three basic choices when starting a chiropractic practice. They will also recognize their options related to selecting a business structure as well as being able to identify the type of practice they want to establish. In addition, the student should be able to recognize the different types of health insurance and manage care plans typically encountered in a chiropractic office as well as the importance of obtaining access into these insurance networks. Finally, the student

should recognize the importance of the report of findings, HIPPA (Federal) guidelines and basic hospital protocols.

1 lecture hour, 1 credit hour

Chiropractic Skills and Technique

TE511

Chiropractic Examination Skills I: Palpation and Biomechanics of the Spine and Pelvis

This course addresses the biomechanics and chiropractic assessment procedures of the spinal and pelvic joints. The student is introduced to the concepts of biomechanics as they relate to the kinematics and kinetics of the spine and pelvis and the structure and functioning of the tissues of the musculoskeletal system.

2 lecture hours, 2 semester hours

TE511L

Chiropractic Examination Skills I: Palpation and Biomechanics of the Spine and Pelvis - Laboratory

This laboratory course addresses the biomechanics and chiropractic assessment procedures of the spinal and pelvic joints. Students are introduced to the concepts of biomechanics as they relate to the kinematics and kinetics of the spine and pelvis and the structure and function of the tissues of the musculoskeletal system. This information is coupled with the diagnostic tools of inspection, range of motion, static and motion palpation as they pertain to the assessment of spinal joint function. Additionally students will be trained and tested in the performance of the motor patterns necessary to deliver the chiropractic adjustment. Training will include various hand contacts, thrusts and stances as they apply to the performance of the adjustment.

3 laboratory hours, 1.5 semester hours

TE522

Chiropractic Examination Skills II: Palpation and Biomechanics of the Extremities

Clinical biomechanics of the upper and lower extremities and TMJ are presented. The anatomy of the upper and lower extremity articulations, muscles and associated ligaments are integrated into an understanding of proper joint function and the production of movement, stability and injury.

2 lecture hours, 2 semester hours

TE522L

Chiropractic Examination Skills II: Palpation and Biomechanics of the Extremities Laboratory

Clinical biomechanics and associated chiro-

practic assessment procedures of the upper and lower extremities and TMJ are presented and practiced. Previously learned spinal assessment procedures are reviewed and practiced. Prerequisites: TE511L, Co-Requisite AN526
3 laboratory hours, 1.5 semester hours

TE613

Technique Procedures I: Introduction to Full Spine Technique Lecture

This course will begin with a review of biomechanics and assessment procedures presented in palpation skills TE522 and TE511. Selected spinal conditions will be presented and discussed as they pertain to diagnosis, differential diagnosis and case management. Prerequisites: AN512, TE511 and TE522

1 lecture hour, 1 semester hour

TE613L

Technique Procedures I: Introduction to Full Spine Technique Laboratory

This course introduces students to full spine adjustive procedures from the occiput to the pelvis. This course will begin with a review of biomechanics and assessment procedures presented in palpation skills AN512 and TE511. In addition, this course will concentrate on the psychomotor skills required to perform the specified spinal adjustments from occiput to the pelvis. Prerequisites: AN512, TE511L
3 laboratory hours, 1.5 semester hours

TE624

Technique Procedures II: Intermediate Full Spine and Upper Extremity Adjusting

Principles of patient management and common clinical conditions of the head, neck, thoracic and upper extremity regions are presented. Evidence-based diagnostic and treatment protocols are stressed along with chiropractic management and proper referral and co-management. Prerequisites: TE613, DX611, DX612, TE522L, DX611L, DX612L
2 lecture hours, 2 semester hours

TE624L

Technique Procedures II: Intermediate full Spine and Upper Extremity Adjusting Laboratory

The laboratory portion is a review and practice of new and previous techniques taught with an emphasis on skill refinement. Intermediate level spinal techniques and upper extremity techniques are presented and practiced. Prerequisite: TE613L, TE522L

4 laboratory hours, 2 semester hours

TE625

Technique Procedures III: Soft Tissue

Students are introduced to the concepts of

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soft tissue diagnostic procedures and treatment procedures. These include the etiology, pathophysiology, diagnosis and treatment of soft tissue dysfunction and trauma, differential diagnosis and case management of soft tissue dysfunction and trauma, differential diagnosis and case management of soft tissue lesions are presented. Prerequisites: TE511, 511L, TE522, 522L, TE613, AN512, AN526, NS612
2 lecture hours, 2 semester hours

TE625L

Technique Procedures III: Soft Tissue Laboratory

The laboratory portion covers the diagnosis and treatment of muscle hypertonic states. Prerequisites: TE613L, TE522L
2 laboratory hours, 1 semester hour

TE716

Technique Procedures IV: Intermediate Full Spine and Lower Extremity Technique

Clinical biomechanics of the lumbopelvic region and lower extremities are reviewed. Evidence-based differential diagnosis and case management of lumbopelvic and lower extremity clinical conditions common to chiropractic practice are presented and discussed. Prerequisites: TE624, TE624L
2 lecture hours, 2 semester hours

TE716L

Technique Procedures IV: Intermediate Full Spine and Lower Extremity Technique Laboratory

Intermediate level full spine and lower extremity assessment and manipulative procedures are presented and practiced. Students continue to review and practice previous technique procedures. Prerequisite: TE624L
4 laboratory hours, 2 semester hours

TE717L

Technique Procedures V: Soft Tissue II

This course will begin by reviewing soft tissue techniques taught in TE625/TE625L. Students then refine their palpatory and therapeutic soft tissue manual treatment skills. Prerequisite: TE625L
2 laboratory hours, 1 semester hour

TE728

Technique Procedures VI: Advanced Chiropractic Technique I

Advanced patient assessment procedures and application of technique procedures to different patient populations are presented and discussed. Upper cervical toggle recoil, instrument adjusting and temporomandibular joint, symphysis pubis, coccyx and rib techniques are introduced. Chiropractic management of extremity conditions is presented and dis-

cussed. Prerequisite TE716
2 lecture hours, 2 semester hours

TE728L

Technique Procedures VI: Advanced Chiropractic Technique I Laboratory

Previous patient assessment procedures and technique procedures are demonstrated and practiced. Advanced spinal and extremity techniques are introduced and practiced. Upper cervical toggle recoil, pelvic blocking, instrument adjusting, cervical and lumbar mobilization techniques, TMJ, symphysis pubis, coccyx and rib techniques are introduced and practiced. Taping and bracing techniques will be introduced. Soft tissue techniques are reviewed and practiced.
4 laboratory hours, 2 semester hours

TE819

Technique Procedures VII: Advanced Chiropractic Technique II

This course is the combined lecture and laboratory review of all techniques taught at UBCC. This course also serves as a critique course for other techniques utilized in practice. Case management utilizing various chiropractic technique approaches are discussed and critically evaluated. Additional techniques, such as taping, massage techniques and an introduction to fascial manipulation are included. Prerequisite: all courses Semester I-VI
1.5 lecture hours, 3 laboratory hours, 3 semester hours

Clinical Nutrition

CN621

Clinical Nutrition I: Pathology and Assessment

This course introduces the student to disease states and abnormal conditions due to biochemical deficiencies and abnormal metabolic states. Students are introduced to the methods of nutritional assessment through history and observation. Prerequisites: BC511, DX613, PH612, PA611.
1 lecture hour, 1 semester hour

CN712

Clinical Nutrition II: Treatment and Management

This course is a continuation of CN621. Students are presented with abnormalities of a nutritional origin and begin to develop a treatment and management plan. Prerequisite: CN621.
2 lecture hours, 2 semester hours

Clinical Services

CS721

Clinical Services I

Students under the supervision of licensed faculty begin to administer care to patients at the UBCC Health Center. Students are introduced to the procedures and practices utilized by the health center through lectures and practical demonstrations. Students refine their skills in history taking, physical examination, radiology, technique, case management and clinical decision-making. Prerequisites: all courses in semesters I-V.
2 lecture hours, 4 clinic hours, 4 semester hours

CS812

Clinical Services II

Under supervision of licensed faculty, interns administer care to patients. All patient diagnoses and management plans are reviewed and approved by a clinic faculty member prior to the initiation of patient care. Students are assessed via evaluation by faculty. Prerequisite: All course semesters I-VI
25 clinic hours, 12.5 semester hours

CS823

Clinical Services III

Interns continue to administer care to patients under the supervision and approval of licensed faculty. Interns are monitored as to their progress towards completing the qualitative and quantitative requirements as set forth by the UBCC Health Center. Assessment of an intern's clinical competency is performed by faculty. Prerequisite: All course semesters I-VII.
25 clinic hours, 12.5 semester hours

CS824

Clinical Services IV

Interns continue to administer care to patients under supervision of faculty. Progress is monitored by faculty. This clinical experience is presented during the summer for six weeks. Prerequisites: All courses Semesters I-VI
25 clinic hours, 4 semester hours

CS900

VA Clinical Residency Program

Diagnosis

DX611

Diagnostic Skills I: Physical Examination

This course is designed as an introduction to the skills required to examine, diagnose and differentially diagnose the skin, eyes, ears,

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nose, sinuses, mouth, throat and thyroid as well as the cardiovascular, respiratory, gastrointestinal and genitourinary systems. In addition, selected topics regarding the diagnosis of the musculoskeletal system will also be covered. The student will also learn the selection of appropriate examination and diagnostic procedures which correspond to the patient's history and complaint. They will be introduced to the skills as they relate to history taking as well as guidelines for appropriate record keeping and progress notes. Prerequisites: AN511, AN512 and AN525, AN513
2 lecture hours, 2 semester hours

DX611L

Diagnostic Skills I: Physical Examination: Laboratory

This practical laboratory course is designed as an introduction to the psychomotor skills required to examine, diagnose and differentially diagnose the skin, eyes, ears, nose, sinuses, mouth, throat, thyroid, cardiovascular, respiratory, gastrointestinal and genitourinary systems. The students will learn the selection of appropriate examination and diagnostic procedures, which correspond to the patient's history and complaint as well as recognize the importance of the review of systems and the development of a problem list. The successful student will learn how to select and use their diagnostic equipment and specific procedures for carrying out these examinations. Prerequisites: AN511, AN513, AN525
3 laboratory hours, 1.5 semester hours

DX612

Diagnostic Skills II: Orthopedics and Neurology

This lecture course emphasizes the use of evidenced-based orthopedic and neurological evaluation procedures. Students are introduced to an organized clinical thought process that prepares them to perform appropriate evaluation procedures of patients presenting with neuromusculoskeletal conditions. Prerequisites: AN526, TE522, PP524
2 lecture hours, 2 semester hours, 4 laboratory hours, 2 semester hours

DX612L

Diagnostic Skills II: Orthopedics and Neurology Laboratory

This laboratory course accompanies DX612 and emphasizes the use of evidenced-based orthopedic and neurological evaluation procedures. Students are introduced to an organized

clinical thought process that prepares them to perform appropriate evaluation procedures of patients presenting with neuromusculoskeletal conditions. Prerequisites: AN526, TE522, PP524

4 laboratory hours, 2 semester hours

DX623

Diagnostic Skills III: Orthopedic and Neurology

The lecture portion of this course covers common diseases and conditions of the neurological system.

2 lecture hours, 2 semester hours

DX623L

Diagnostic Skills III: Orthopedic and Neurology Laboratory

The laboratory portion presents cases that challenge the student to consider the evaluation and management process of specific neurological conditions. Practical application of neurological and orthopedic testing prepares the student to organize their critical skills.

4 laboratory hours, 2 semester hours

DX624

Laboratory Diagnosis

This course focuses on the principle laboratory tests used to evaluate and diagnose various pathological conditions. The student will learn the selection of appropriate laboratory and diagnostic procedures which correspond to the patient's history and complaint. The student will also expand upon their knowledge base from previous courses in physiology and biochemistry in learning about and understanding the rationale behind common laboratory procedures, including serum chemistries, CBC, and urine studies. An introduction to various functional and metabolic studies will also be presented. Prerequisites: DX611, DX611L, PH612, PA611
3 lecture hours, 3 semester hours

DX725

Special Populations

This course introduces the student to the health care needs of the developing child and mother from conception to birth to childhood and adolescence. Complications of pregnancy, delivery, post-partum care and the chiropractic management of the obstetrical patient will be discussed. The examination and conditions of the pediatric patient as well as the management of the pediatric patient is presented. Also covered is the examination of the geriatric patient, common findings of the geriatric exam and management of selected neuromusculoskeletal and non-neuromusculo-

skeletal conditions. Prerequisites: all courses in semesters I-V.

3 lecture hours, 3 semester hours

Differential Diagnosis

DD621

Differential Diagnosis I: Ears Eyes Nose Throat

DD711

Differential Diagnosis I: Internal Disorders

This lecture and skill laboratory course is designed as an introduction to the skills required to examine and differentially diagnose the cardiovascular, respiratory, gastrointestinal and genitourinary systems. Selected topics regarding the endocrine and lymphatic system will also be covered. The student will learn the selection of appropriate examination, diagnostic and therapeutic procedures which correspond to the patient's history and complaint. The student will also expand upon their knowledge base from previous courses in medical interviewing, physical examination, and laboratory diagnosis and learn how to select and use diagnostic equipment, diagnostic tests and specific procedures used in the differential diagnosis of internal disorders. Integration of these skills into the comprehensive management of the patient will be emphasized which will allow the student to properly develop the clinical decision-making skills required of a primary care physician. Prerequisites: DX611/ DX611L, DX624, DX623/DX623L, PA622, PH612, DI623.
5 lecture hours, 2 laboratory hours, 6 semester hours

DD711L

Differential Diagnosis I: Internal Disorders

Laboratory

This lecture and skill laboratory course is designed as an introduction to the skills required to examine and differentially diagnose the cardiovascular, respiratory, gastrointestinal and genitourinary systems. Selected topics regarding the endocrine and lymphatic system will also be covered. The student will learn the selection of appropriate examination, diagnostic and therapeutic procedures which correspond to the patient's history and complaint. The student will also expand upon their knowledge base from previous courses in medical interviewing, physical examination, and laboratory diagnosis and learn how to select and use diagnostic equipment, diagnostic tests and specific procedures used in the differential diagnosis

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of internal disorders. Integration of these skills into the comprehensive management of the patient will be emphasized which will allow the student to properly develop the clinical decision-making skills required of a primary care physician. Prerequisites: DX611/ DX611L, DX624, DX623/DX623L, PA622, PH612, DI623.
5 lecture hours, 2 laboratory hours, 6 semester hours

DD722

Differential Diagnosis II: Neuromusculoskeletal

This course is a presentation of the diseases and conditions affecting the neuromusculoskeletal system. Disorders affecting the spine, extremities and central and peripheral nervous system are reviewed. Neurological and orthopedic testing are covered as they relate to the differential diagnosis of these systems. Functioning of the human locomotor system and how other systems can affect this is stressed. Prerequisites: All courses, Semesters I-V
4 lecture hours, 2 laboratory hours, 5 semester hours

Emergency Procedures

ER 711

Emergency Procedures

This course will familiarize the students with emergency situations and procedures that may be seen in the Emergency Department or private practice. The student will learn to discern emergent presentations by review of clinical scenarios and be able to elicit a proper history and physical exam to properly refer or treat the patient in the confines of their scope of practice.

1 lecture hours, 2 semester hours

Microbiology and Public Health

MB521

Clinical Microbiology I: Introduction to Infectious Diseases

This course introduces the student to the basic concepts of microbiology with emphasis on the structure, growth, metabolism and genetics of bacteria. Host-parasite relationships of representative bacterial, fungal, viral and protozoan pathogens are examined. A survey of microbial diseases includes modes of transmission, symptoms, diagnosis, physical and chemical methods of disinfection, sterilization and treatment. Presentations include lecture, laboratory and case studies. Prerequisites:

BC511, AN511
2 lecture hours, 2 semester hours

MB612

Clinical Microbiology II: Infectious Diseases

This course is a continuation of MB521. Common infectious diseases are presented from a microbiological perspective. Prerequisite: MB521, PH521

2 lecture hours, 2 semester hours

MB621

Microbiology Infectious Diseases

MB623

Public Health I: Introduction to Public Health and Epidemiology

This course covers the current environmental and public health concerns and issues. The course integrates health with diet, air and water pollutants, noise and substance abuse, compares community hygiene and industrial hygiene, defines epidemiology and recognition of major communicable and non-communicable disease. Prerequisite: MB612.
2 lecture hours, 2 semester hours

MB712

Epidemiology Public Health

MB724

Public Health II: Community Health and Wellness

This course emphasizes interventions which promote wellness and prevent disease. Students will learn health risk assessment which will help motivate patients to make lifestyle changes that promote wellness and prevent disease. 2 lecture hours, 2 semester hours

Neuroscience

NS521

Neuroscience I

This course focuses on the anatomy of the nervous system with special emphasis on sensory and motor systems. However all areas of the central nervous system are discussed to give the student a broad understanding of brain function. Clinical correlations are made which are applicable to each region or system of the CNS. The laboratory section of the course includes presentation of prosections and discussion of case studies. Instruction includes lecture, case studies and demonstration of prosections in the laboratory. Prerequisites: AN511, AN512, AN514.
3 lecture hours, 3 semester hours

NS612

Neuroscience II

This course is a continuation of NS521, with

the focus on the physiology of the nervous system. The sensory and motor systems are examined in detail. An emphasis is placed on the correlation of anatomical structure to physiological function and clinical dysfunction. The special sense organs and systems are studied in detail. The laboratory introduces students to neurological tests performed on patients, with an emphasis on understanding the underlying neuro-anatomy and neurophysiology that is the basis for these tests. Prerequisites: NS521, PP523, PH521, AN525.
3 lecture hours, 3 semester hours

Pathology

PA611

Fundamentals of Pathology

This course is a study of the pathophysiological process and how this process alters the gross, microscopic and clinical manifestations of disease. Basic processes of inflammation, repair, degeneration, necrosis, immunology and neoplasia is presented. This course is also an introduction to diseases of the lymphatic, hematopoietic, and neuromusculoskeletal system. Laboratory includes the study of gross and microscopic changes as well as clinical presentations of various diseases and functional disturbances. Prerequisites: All anatomy courses, PH521, BC511
2 lecture hours, 1 laboratory hour, 2.5 semester hours

PA622

Systems of Pathology

This course is a continuation of PA611. This course emphasizes the pathological basis of systemic diseases of the cardiovascular, respiratory, gastrointestinal, urogenital, endocrine, and renal systems. The gross microscopic and clinical manifestations of various disease processes are presented. Prerequisites: PA611, Corequisite PH612.
4 lecture hours, 2 laboratory hour, 5 semester hours

Physiological Therapeutics

PT711/PT711L

Physiological Therapeutics I: Modalities

This course is an introduction to the clinical use of heat, cold, high volt galvanism, interferential current, low volt galvanism, ultrasound, electrical muscle stimulation, diathermy and paraffin. This student is instructed on the development of a clinical management plan

Chiropractic

utilizing adjunctive therapies. In lab, students are introduced to the use and application of modalities.

1 lecture hour, 1 semester hour/2 laboratory hours, 1 semester hour

PT722

Physiological Therapeutics II: Rehabilitation

In this course current concepts of active rehabilitative management of injuries, dysfunctions and conditions of the spine and extremities common to the practice of chiropractic are presented. The student receives instruction in a variety of assessment and clinical management protocols including spinal stabilization, therapeutic exercise, PNF, stretching, sensorimotor training and patient education. The application of outcomes and psychosocial risk factors assessment in developing the treatment plan is addressed.

2 lecture hours, 2 laboratory hours, 2 semester hours

PT722L

Physiological Therapeutics II: Rehabilitation Laboratory

In this course current concepts of active rehabilitative management of injuries, dysfunctions and conditions of the spine and extremities common to the practice of chiropractic are presented. The student receives instruction in a variety of assessment and clinical management protocols including spinal stabilization, therapeutic exercise, PNF, stretching, sensorimotor training and patient education. The application of outcomes and psychosocial risk factors assessment in developing the treatment plan is addressed.

2 lecture hours, 2 laboratory hours, 2 semester hour

Physiology

PH521

Organ System Microscopic Anatomy and Physiology I

This class will focus on understanding the microscopic anatomy and physiology of the organs of the immune and endocrine systems. Major emphasis will be placed on the role of non-specific and specific defense mechanisms in health maintenance and provide an introduction into immune system disruption as it relates to hypersensitivity and autoimmunity. The endocrine system will be studied in its primary role in cellular communication and maintenance of homeostasis. Special emphasis will be placed on the interaction and commun-

ication between the nervous and endocrine systems. Prerequisites: AN511, BC511
2 lecture hours, 2 semester hours

PH612

Organ System Microscopic Anatomy and Physiology II

The microscopic anatomy and physiology of the cardiovascular, respiratory, digestive and reproductive systems will be introduced. An emphasis will be placed on the relationship of tissue organization and function of the organ systems. Laboratories in this class will utilize case studies to emphasize how an understanding of normal physiologic mechanisms is crucial to understanding pathophysiology. Prerequisites: AN511, PH521.

4 lecture hours, 2 laboratory hours, 5 semester hours

PH713

Toxicology and Pharmacology

This course is the study of drugs and chemicals and how they interact with the living organism. Pharmacology is a study of the sites, absorption and metabolism of common drugs. Toxicology studies the adverse reactions of drugs and poisons. The therapeutic use and toxic side effects of various drugs, chemicals, nutritional supplements and other substances are studied. Prerequisites: PH612, PA611, NS612, PA622.
2 lecture hours, 2 semester hours

Principles and Practice

PP511

Principles and Practice I: History and Philosophy

This is a course in which the history of healing is traced from its known origins through discovery of chiropractic to the present day. The basic concepts of chiropractic philosophy are discussed, as well as their current interpretation and clinical significance. Particular emphasis is placed upon chiropractic as a distinct profession in the health care community.
2 lecture hours, 2 semester hours

PP512

Principles and Practice II: Introduction to Evidence-Based Practice

Students will learn the steps involved in Evidence-Based Chiropractic practice: Creating focused clinical questions, efficiently finding, and then assessing evidence for relevance and validity, applying it ethically (alongside clinical wisdom and patient preferences) to a clinical question, then reflecting upon your

mastery of the process. This course will build the foundation for an ongoing commitment to inquiry which will support your future clinical decisions and patient care.

2 lecture hours, 2 semester hours

PP513

Principles and Practice III: Ethics

Students are introduced to various codes of behavior as they relate to patient relations, advertising, insurance reporting and professional and general personal behavior.

2 lecture hours, 2 semester hours

PP523

Principles and Practice III: Contemporary Chiropractic Studies

Historical and contemporary principles of the chiropractic profession are introduced and discussed. Components of the subluxation complex are presented, critically analyzed and incorporated into the science, art and philosophy of contemporary chiropractic practice. Current events regarding chiropractic and health care are presented and discussed. Prerequisite: PP511
2 lecture hours, 2 semester hours

PP624

Principles and Practice IV: Evidence-Based Practice

In this course, students will expand their knowledge of evidence-based practice. The course emphasizes asking clinical questions, searching for the scientific literature to answer those questions and critically appraising that research. Having found valid research to answer the clinical questions, students will learn how to use that information in clinical practice. Prerequisite: PP512
2 lecture hours, 2 semester hours

PP715

Principles and Practice V: Ethics

This is a risk management course that stresses the importance of ethical and legal business management procedures. Students learn risk management, jurisprudence, ethics and the informed consent process. Successful completion will prepare the student to practice as an ethical health care provider.
1 lecture hour, 1 credit hour

Psychology

PS711

Clinical Psychology

This course is designed to familiarize the student with current psychological theory and

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practice. The student is instructed in behavioral assessment and the recognition of psychological disorders. Interviewing and counseling techniques are presented as well as the criteria for appropriate referral of patients to providers of psychological services.

2 lecture hours, 2 semester hours

Radiology

DI521

Diagnostic Imaging I: Normal Anatomy

This course introduces students to normal spinal anatomy including the skull and pelvis. In addition, the students will learn about some abnormal conditions such as scoliosis and spondylolisthesis. Concepts, as they relate to imaging formation, file interpretation and report writing are introduced.

2 lecture hours, 2 laboratory hours, 3 semester hours

DI612

Diagnostic Imaging II: Normal Anatomy

This course is a continuation of DI521. Students continue to develop their skills of radiographic interpretation as they relate to normal anatomical structures of the various parts of the body. Emphasis is placed on the radiography of normal anatomical structures of the extremities and chest. Prerequisite: DI521

1 lecture hour, 2 laboratory hours, 2 semester hours

DI623

Diagnostic Imaging III: Bone Pathology

This course introduces students to the clinical and radiographic manifestations affecting osseous structures due to neoplasia, such as tumor-like conditions, infection and normal variants. Students are introduced to special imaging as it relates to further evaluation of these conditions. Prerequisite: DI612

2 lecture hours, 2 laboratory hours, 3 semester hours

DI714

Diagnostic Imaging IV: Arthritis and Trauma

This course further develops the students' skills in the clinical and radiographic manifestation of osseous structures. Emphasis in this course is placed on the interpretation and recognition of disorders due to inflammatory and non-inflammatory arthritis and trauma. Special imaging as they relate to further evaluation of these conditions is presented. Prerequisite: DI623.

2 lecture hours, 2 laboratory hours, 3 semester hours

DI725

Diagnostic Imaging V: Chest and Abdomen

This course covers the interpretation of normal and abnormal clinical and radiographic manifestations of the internal organs. The chest, heart and abdomen are studied on plain film as well as special examination procedures. Prerequisite: All previous DI courses.

1 lecture hour, 2 laboratory hours, 2 semester hours

DI726

Diagnostic Imaging VI: Positioning and Physics

This course covers the mechanics of x-ray production, film processing, x-ray factors and radiation safety and protection for doctor and patient. Also covered is the placement and positioning of patients for the taking of x-ray studies. Students are introduced to the policies and procedures utilized by the UBCC Health Center.

2 lecture hours, 2 laboratory hours, 3 semester hours

DI827

Diagnostic Imaging VII: X-Ray Review

This course discussed the radiographic presentation of osseous pathologies that clinicians may see in field practice. Review of previous and introduction of new conditions is the goal. A more in-depth study of advanced imaging (with focus on MRI) of the areas often clinically discussed is presented. Prerequisites: All courses: Semesters I-VI.

2 laboratory hours, 1 semester hour

Research

RS711

Evidence Based Practice I

This online learning course will utilize previously taught material and evidence-based practice methods in the creation of a comprehensive case report on a fictitious patient. An emphasis is placed on chiropractic principles and techniques as patient management strategies are created. Prerequisite: PP512, PP624

1 lecture hours, 1 semester hour

RS722

Evidence Based Practice II

This online learning course will utilize previously taught material and evidence-based practice methods in the creation of a comprehensive case report on a fictitious patient. An emphasis is placed on chiropractic principles and techniques as patient management strate-

gies are created. Prerequisite: RS711

1 lecture hours, 1 semester hour

RS813

Evidence Based Practice III

Interns compare different interventions based on patients seen by the intern, as approved by their clinician. Interns perform a literature search and report the clinical questions, search terms used; data based searched, papers found and their quality. The intern determines whether a given intervention has quality evidence supporting its use. Interns submit a report summarizing findings and discuss the case with other interns. Clinicians query interns not only regarding the findings, but also how the investigation provides practical application to the patient's care and management plan. Prerequisites: All Courses, Semesters I-VI, Corequisite: CS812

1 semester hour

RS824

Evidence Based Practice IV

Interns compare different interventions based on patients seen by the intern, as approved by their clinician. Interns perform a literature search and report the clinical questions, search terms used; data based searched, papers found and their quality. The intern determines whether a given intervention has quality evidence supporting its use. Interns submit a report summarizing findings and discuss the case with other interns. Clinicians query interns not only regarding the findings, but also how the investigation provides practical application to the patient's care and management plan. Prerequisite: All courses Semesters I-VII, Corequisite: CS823

1.5 semester hour

Computer Engineering

COMPUTER ENGINEERING 408

Operating Systems

Structure and design issues in modern operating systems. Topics may include OS structure; Threads, CPU scheduling and synchronization of processes; deadlock management; main and virtual memory management; file management; file system interface; I/O structure; Prerequisite: Computer Science 102.

3 semester hours

COMPUTER ENGINEERING 415

Advanced Digital Systems

The objective of this graduate level course is to introduce the modern design methodologies

Computer Engineering

for digital logic and automatic synthesis of digital systems. Students are provided with access to the CAD tools to use hardware description language to model, analyze and design various digital circuits/systems. It is expected that students will acquire a clear understanding of the main techniques, design strategies and the optimizations that are involved in modern digital circuit modeling, design and synthesis. The course projects will include the design and optimization of advanced critical digital systems used in bio-related applications.

COMPUTER ENGINEERING 446 (CPEG 446/ELEG 446)

MEMS (Micro-Electro-Mechanical Systems)

Basic micro fabrication techniques, MEMS materials and their properties, MEMS device design and simulation, MEMS packaging and assembly, signal testing and MEMS reliability analysis. MEMS industrial applications in various areas will also be discussed. Students used ANSYS FEM software to design and simulate their behavior.

3 semester hours

COMPUTER ENGINEERING 447 (CPEG 447/ELEG 447)

Field Programmable Gate Arrays

Field Programmable Gate Array (FPGA) architectures, HDL synthesis using Verilog, place and route, FPGA configuration, Behavioral, structural and data flow descriptions. FPGA Timing Analysis, Constraints, Clock Domain Crossing and Meta-stability analysis. A major FPGA based design project is assigned in the course. Prerequisite: Computer Engineering 315.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 448D

Introduction to VLSI Design

Design and implementation of a very large scale integrated circuits. CMOS and BiCMOS technologies, clocking characteristics, resistance, capacitance and power estimation, system-level design and simulation using Verilog. Custom layout and verification using CAD tools. Synthesis of designs from Verilog descriptions. Term project will include the design and testing of an integrated circuit.

Prerequisites: Computer Engineering 315 and Electrical Engineering 348.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 458 (CPEG 458/ELEG 458)

Analog VLSI

Modeling, design and analysis of analog VLSI circuits. CMOS processing and layout, current mirrors, Opamp, comparators, S/H voltage references, switched-capacitor circuits, data

converters, filters and PLLs. Students design analog VLSI layouts, extract the netlists and simulate the circuit behavior. Transistors sizing will also be discussed. EDA tools PSPICE, Mentors Graphics are used.

3 semester hours

COMPUTER ENGINEERING 460

Introduction to Robotics

Basic Robotics, including: position and velocity sensing, actuators, control theory, robot coordinate systems, robot kinematics, differential motions, path control, dynamics, and force control. Robot sensing, simulation of manipulators, automation, and robot programming languages are also investigated. Prerequisites: Computer Science 102, Electrical Engineering 360, Math 214 or 314 or permission of instructor.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 472

Computer Networks

Introduction to fundamental concepts in the design and implementation of computer communication networks, their protocols, and applications. Topics to be covered include: overview of network architectures, applications (HTTP, FTP), network programming interfaces (e.g., sockets), transport (TCP, UDP), flow control, congestion control, IP, routing, IPv6, multicast, data link protocols, error detection/correction, multiple access, LAN, Ethernet, wireless networks, and network security. Prerequisite: Computer Engineering 471 or permission from instructor.

3 lecture hours, 3 semester hours

COMPUTER ENGINEERING 473

Local Area Networks

Examination of wired and wireless Local and Metropolitan Area Network technologies, protocols, and the methods used for implementing LAN and MAN based enterprise intranets. The IEEE 802 media access control (MAC) protocols are examined. The 802.2 logical link control, 802.3/Ethernet, 802.3 token bus, and the 802.5 token ring protocols are analyzed, and the construction of LAN-based enterprise instruments is examined through a detailed analysis of bridging, routing, and switching techniques. High-speed LAN technologies are discussed through an examination of FDDI, Fast Ethernet, 100VG AnyLAN, ATM LAN and fiber Channel protocols along with the standards for Gigabit and 10 Gigabit Ethernet. The new and emerging wireless LAN and MAN standards are also examined. The 802.11 (WiFi) wireless LAN and 802.15 (Bluetooth) wireless PAN standards are discussed. Prereq-

uisite: Computer Engineering 471.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 481

Mobile Communications

This course covers the basic technologies in the field of wireless and mobile communications. The following topics are covered in the course: wireless transmission, media access control, satellite systems, broadcast systems, wireless LANS, wireless ATM, network layer protocols, transport protocols and support for mobility. Pre-requisites: Computer Engineering 471 or Computer Engineering 472 or permission of instructor.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 482

Network Administration

Internetworking basis. Bridging and Switching Fundamentals. Routing basic. Network management fundamentals. Network architecture. Security. Troubleshooting. Pre-requisites: Computer Engineering 471 or Computer Engineering 473 and permission of instructor.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 489

Software Engineering

Structural development methodology for large software systems. Planning requirements, design, test, and validation. Advanced topics in software development. Prerequisite: Computer Engineering 489.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 496

Digital Signal Processing Laboratory

3 semester hours

COMPUTER ENGINEERING 500

Graduate Co-op/Internship in Computer Engineering

By arrangement.

1-3 semester hours

COMPUTER ENGINEERING 506

Mobile and Pervasive Computing

Students will learn the fundamentals of mobile computing and pervasive computing. Students will learn how to design and develop mobility-aware systems. Students will study the main standards of pervasive computing. Also, they will study mobile platforms environments, location awareness and wearable computing.

3 semester hours

COMPUTER ENGINEERING 510

Introduction to Computer Architecture

Instruction set; data path and controller design for computers. Design and analysis of a RISC

Computer Engineering

processor including integer and floating point pipeline design. Cache and virtual memory design, interrupts and DMA. Prerequisite: Computer Engineering 312 or equivalent background.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 513

Biomedical Image Processing

This course is an elective course. The content of this course include the fundamentals of Digital Image Processing and its applications in biomedical field. Sampling and Quantization of signals are mentioned in order to introduce the digital images, some basic relationship between pixels are mentioned. Introduction to Fourier Transform, Discrete Fourier Transform and Fast Fourier Transformed are explained. MATLAB programming with Image Processing Toolbox will be introduced to empathize and rigid the understanding of students. Others important fundamental theorems, e.g., Image Enhancement, Image Segmentation, Representation and Description are also mentioned. Students are required to implement some program using theorems learnt in classes.

3 semester hours

COMPUTER ENGINEERING 515

Advanced Digital Systems

The objective of this graduate level course is to introduce the modern design methodologies for digital logic and automatic synthesis of digital systems. Students are provided with access to the CAD tools to use hardware description language to model, analyze and design various digital circuits/systems. It is expected that students will acquire a clear understanding of the main techniques, design strategies and the optimizations that are involved in modern digital circuit modeling, design and synthesis. The course projects will include the design and optimization of advanced critical digital systems used in bio-related applications.

3 semester hours

COMPUTER ENGINEERING 540

Image Processing

This is a project-oriented course. Students will learn and implement FFT with applications, image enhancement, image restoration, image compression, and image tomography. Projects will be conducted on workstations. Prerequisite: Electrical Engineering 443.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 548 (CPEG 548/ELEG 548)

Low Power VLSI Circuit Design

With the rapid development of mobile com-

puting, low power VLSI design has become a very important issue in the VLSI industry. A variety of low-power design methods are employed to reduce power dissipation of VLSI chips. This course is designed to cover low-power design methodologies at various design levels (from system level to transistor level). The basic low-power design strategies will be introduced in the class. Students will use the learned knowledge to design low-power VLSI circuits. Upon completion of this course, students will be able to analyze the power consumption of VLSI circuits, and design low-power VLSI circuits using various strategies at different design levels. The major target is to design VLSI chips used for battery-powered systems and high-performance circuits not exceeding power limits.

3 semester hours

COMPUTER ENGINEERING 550

Advanced VLSI Design

Implementation of custom VLSI designs, digital and analog simulation, fault tolerant design, design for testability. A major project will include the implementation of a digital integrated circuit. Prerequisites: Computer Engineering 448D.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 560

Performance Evaluation and Analysis

This course covers the basic theory and practice of computer systems performance evaluation. The course focuses on three major aspects of performance analysis, measurement, simulation and analytical modeling using queuing theory. The topics will include measurement techniques, monitor tools, simulation models, stochastic processes, queuing theory and analytical modeling techniques. Prerequisite: Computer Engineering 312, Computer Engineering 510 and Mathematics 323.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 561

Network Security

Conventional encryption and message confidentiality, public-key cryptography and message authentication. Authentication applications, electronic mail security, IP security, web security, firewalls, security in mobile network and other security systems. Prerequisites: Computer Engineering 471 or 473.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 562

Cryptography and Cryptanalysis

Student will learn advanced topics in Cryptography and Cryptanalysis including: Classical Encryption Techniques, Block Ciphers and the Data Encryption Standard, Finite Fields, Advanced Encryption Standard, Block Cipher Operation, Random Bit Generation and Stream Ciphers, Public-Key Cryptography and Cryptosystems, Cryptographic Hash Functions, Advanced Cryptanalysis techniques and tools. This course includes a research project involves state-of-the art cryptography and cryptanalysis algorithms/tools.

3 semester hours

COMPUTER ENGINEERING 563

Applications Security

This course covers the very important area of application security providing useful examples of how security can be compromised in an application and what preventive measures should be taken from code development and deployment point of view. Topics covered include validation, cross-site scripting (XSS) and cross-site request forgery (CSRF), securely accessing databases and safeguarding against SQL injection attacks, encryption, hashing and preventing information leaks, methods for authenticating and authorizing users, including membership providers and preventing cookie theft, securing and locking down web server, ways to securely use web services, security with Ajax, Web API (Restful services) and MVC frameworks.

3 semester hours

COMPUTER ENGINEERING 570

Advanced Robotics

Advanced robotics and automation topics and techniques, including: active robotic sensing, intelligent and integrated manufacturing systems, robotic inspection, observation under uncertainty, multisensor feedback control of manipulators and mobile robots, advanced simulation and monitoring of robotic systems, high level modeling and control, and other topics. Prerequisites: Computer Science 460 or Computer Engineering 460.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 572

Data and Computer Communications

Introduction to data communication. Frequency response, bandwidth, filtering and noise. Fourier series and Fourier transform. Information theory concepts: Nyquist's theorem, Shannon's and Sampling theorems. Analog and digital modulation techniques. Pulse Code Modulation (PCM). Communication systems circuits and devices. Data encoding. Physical

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layer protocols. Data link control (point to point communication, design issues, link management, error control, flow control). Multiplexing and switching. Prerequisite: Computer Engineering 210.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 577

Internet of Things

This course focuses on a new emerging topic - The Internet of Things (IoT) and Machine-to-Machine Communications (M2M). The course includes a good amount of background review to get all students to an equivalent level, but primarily lectures will follow a seminar style structure. This implies course work includes readings, presentations and discussion of technical papers taken from the currently available IoT literature. Seminar style requires active student participation in both the presentations and in the discussions. Prior to the class / seminar, students are required to review an assigned article. Then we will have a thorough and interactive discussion in the classroom. The course syllabus will intentionally adapt to the interests and backgrounds of the students. This course will focus more narrowly on just a few key areas. Class lectures will be a combination of review of relevant networking material and presentation of papers from the current literature on the Internet of Things. Depending on length and complexity, the class will typically cover one or more research papers per week in class. Students should try to submit papers that they would be both qualified and interested in presenting in class. Prerequisites: Computer Engineering 472, Computer Engineering 572, or Computer Engineering 481.

3 semester hours

COMPUTER ENGINEERING 585

Computer Vision

Fundamentals of image formation, affine transformations, convolution filters, image registration, super resolution, motion estimation and tracking, image classification, principal component analysis, deep learning approaches to object detection and recognition. Prerequisite: Appropriate Mathematics and Programming background.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 586

Deep Learning

Deep learning architectures such as deep convolution networks, sparse autoencoders,

recurrent neural networks, reinforcement learning techniques. Programming projects on the different deep networks through state of the art libraries using Tensor Flow, and PyTorch are assigned. Prerequisite: Appropriate Mathematics and Programming background.

3 lecture hours; 3 semester hours

COMPUTER ENGINEERING 587

Embedded System Design

Design of systems having major hardware and software components. Software implementations are used to control specific hardware such as micro controllers. Major laboratory emphasis to realize embedded systems.

3 semester hours

COMPUTER ENGINEERING 597 A

Advanced Problems-Computer Engineering

Lecture hours and topics to be arranged with Department Chair.

1 semester hour

COMPUTER ENGINEERING 597 B

Advanced Problems-Computer Engineering

Lecture hours and topics to be arranged with Department Chair.

2 semester hours

COMPUTER ENGINEERING 597 C

Project III

Lecture hours and topics to be arranged with Department Chair.

1 semester hour

COMPUTER ENGINEERING 598

Thesis in Computer Engineering

Lecture hours, semester hours and topics to be arranged with Department Chair.

3-6 semester hours

COMPUTER ENGINEERING 599

Independent Study in Computer Engineering

Independent study of advanced topics in Computer Engineering and submission of project report as required. Problem assignment to be arranged with and approved by the Department Chair.

3 semester hours

COMPUTER ENGINEERING 606

Quantum Computing

Classical Computing versus Quantum Computing, Basic Quantum Theory. Quantum Gates and Circuits. Quantum Algorithms. Quantum Programming Language. Deterministic and Nondeterministic Computations. Quantum Cryptography. Quantum Information Theory. Quantum Hardware.

3 semester hours

COMPUTER ENGINEERING 660

Navigation & Control of UAVs

The course objective is twofold: i) To provide a comprehensive study of unmanned fixed-wing and rotorcraft navigation and control techniques, including a review of kinematics, dynamics and equations of motion, sensors, identification, controller design and implementation, as well as advances in unmanned aviation technology. ii) To present a detailed methodology for designing and navigating/controlling a new type of fixed-wing aircraft with enhanced aerodynamic performance based on the concept of Circulation Control, which allows for lift enhancement, reduce takeoff and landing distance, delayed stall and increased effective payload. CC based aircraft design is followed by controller design that also includes identification of stability and control derivatives.

3 semester hours

COMPUTER ENGINEERING 678

Adv Wireless Sensor Networks

Wireless Sensor Network Applications. Factors Influencing Wireless Sensor Network Design. Physical Layer. Medium Access Control (MAC). Network Layer. Transport Layer. Time Synchronization. Localization. Topology Management. Wireless Sensor and Actor Networks. Wireless Multimedia Sensor Networks. Wireless Underwater Sensor Networks. Wireless Underground Sensor Networks.

3 semester hours

Computer Science

COMPUTER SCIENCE 410

Java Programming

Object oriented programming, using Java, packages, interfaces, multi-threading, classes, inheritance, exceptions, interfaces, native methods, applets. Prerequisite: Computer Science 400.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 411

Advanced Object-Oriented Programming with JAVA

Covered topics include advanced features of Java, such as Database inter-connectivity (JDBC) with Servlets and JSP, remote method interface (RMI), distributed applications objects using CORBA and JNDI, Java Beans, introspection and reflection, Enterprise Java applications with EJB, interfacing Java to C++

Computer Science

with JNI, and additional advanced topics. A focus on developing components and packages. A major project is developed. Prerequisite: Computer Science 410.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 435

Unix System Programming

Introduction to shell programming and system in Unix/Linux environments. Various commands, tools, filters and specification languages are studied. System calls to deal with files, processes, pipes, three interprocess communication facilities (semaphores, shared memory, and message queue), and signals are introduced. Prerequisite: Computer Science 400.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 440

Windows Programming

Object-oriented programming concepts in C# such as interfaces, indexers, generics, collections, delegates, LINQ and events. Graphics programming using GDI+, creating libraries and signing assemblies, multithreading and synchronization issues, accessing databases, design of proper layered data driven applications, introduction to entity framework. Prerequisites CPSC 102.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 441

Smartphone App Development

3 semester hours

COMPUTER SCIENCE 460

Introduction to Robotics

Basic robotics including: position and velocity sensing, actuators, control theory, robot coordinate systems, robot kinematics, differential motions, path control, dynamics and force control. Robot sensing, simulation of manipulators, automation and robot programming, languages are also investigated. Prerequisite: Computer Science 102, Math 214 or 314, or permission of instructor.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 485

Software Design Patterns

Introduce design patterns and software architectures. Combines pattern theory with examples to show why and when to use patterns and how to implement them. How to apply design patterns at the enterprise level. The use of design patterns to design and implement systems of high stability and quality. Compare

and contrast patterns, including differences between Mediator and Façade. Discuss relationships between patterns. Study how patterns are collaborated within domains to solve complicated problems.

3 semester hours

COMPUTER SCIENCE 460

Intro to Robotics

Basic robotics including: position and velocity sensing, actuators, control theory, robot coordinate systems, robot kinematics, differential motions, path control, dynamics, and force control. Robot sensing, simulation of manipulators, automation, and robot programming languages are also investigated. Prerequisite: Computer Science 102, Match 214 or Math 314, or permission of instructor.

3 semester hours

COMPUTER SCIENCE 500

Graduate Co-op/Internship in Computer Science

By arrangement

1-3 semester hours

COMPUTER SCIENCE 501

OOP and Design Patterns

This course introduces the modern object-oriented programming along with design patterns (using C++) to the beginning graduate students. It emphasizes proper software development and focuses on elegant creation and communication methodologies for commonly occurring problems in modern object-oriented development. Concepts covered include fundamental object-oriented programming involving code reuse through inheritance, polymorphism, templates, exception handling, developing appropriate class hierarchies, unit testing, complete software project development, incorporation of design patterns and code maintenance for large software projects. Prerequisite: Computer Science 102 or equivalent background.

3 Lecture hours, 3 semester hours

COMPUTER SCIENCE 502

Analysis of Algorithms

A course in advanced data structures and high-level algorithms. Varied uses of recursion. Graph representations and algorithms including traversals, path finding, closure, and spanning trees. Sorting files. Weighted and balanced trees; Hashing and collision handling. Complexity and analysis of algorithms. Prerequisite: Computer Science 102 or equivalent.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 503

Operating Systems

An advanced implementation oriented course in structure and design of operating systems. Scheduling and time management; processes and operating systems primitives; Deadlock handling techniques in operating systems; Space management and external device management. Prerequisite: Computer Science 102, Computer Engineering 312, Knowledge of C/C++.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 504

Artificial Intelligence

Foundations of the theory of Artificial Intelligence. Game playing, pattern recognition, description of cognitive processes, heuristic decision procedures, general problem solvers. Learning and robotics. Discussion of the relationship with human thought process. Extensive Lisp programming. Prerequisite: Computer Science 102 or permission of instructor.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 506

Mobile and Pervasive Computing

Students will learn the fundamentals of mobile computing and pervasive computing. Students will learn how to design and develop mobility-aware systems. Students will study the main standards of pervasive computing. Also, they will study mobile platforms environments, location awareness and wearable computing.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 509

Automata Theory

Theory of automata and learning machines. Finite-state sequential machines and functions. Transition preserving functions, Generators and minimal generating sets. Input semigroup, Isomorphisms and Auto-morphisms. Prerequisite: Computer Science 227.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 520

Theory of Computation

Finite automata and Pushdown automata; Register machines; Recursive functions and sets; Languages, regular expressions; Context-free languages; Regular and context-free grammars; Pumping lemmas. Turing machines, Church-Turing thesis. Post-correspondence problem; Computability and complexity. Prerequisite: Computer Science 227 and knowledge of computer programming.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 545

Component Based Software Design

Modern component based software design

Computer Science

approaches using both the Component Object Model (COM) as well as the CORBA technologies. In-depth look at the infrastructure of COM components presenting of concepts of class factories, interfaces (standard and custom), inproc and local server components, IDL, type libraries, proxy/stubs and marshalling, automation and I Dispatch interface, structured storage and ActiveX controls. The distributed form of COM referred to as DCOM and its newest form is known as COM+, which integrates the transaction, and queuing capabilities are examined. A comparison of the CORBA technology is made by explaining its architecture and remoting capabilities. Prerequisite: Computer Science 440, Prerequisite by topic: 1. Good background in C++ programming, 2. Some knowledge of Windows Programming.
3 lecture hours; 3 semester hours

COMPUTER SCIENCE 546

Services-Oriented Arch. (SOA)

The issues in multimedia (audio, images and video), multimedia compression, multimedia operating systems, multimedia communications, multimedia indexing, querying and retrieving, and web database systems, which have been enormously developed recently, and are playing important roles in the areas of business, entertainment, medicine and education. The goal of this course is to give in-depth understanding to media themselves with emphases on other issues related to DBMS, operating systems and communications.
3 lecture hours; 3 semester hours

COMPUTER SCIENCE 550

Multimedia Database Systems

The issues in multimedia (audio, images and video), multimedia compression, multimedia operating systems, multimedia communications, multimedia indexing, querying and retrieving, and web database systems, which have been enormously developed recently, and are playing important roles in the areas of business, entertainment, medicine and education. The goal of this course is to give in-depth understandings to media themselves with emphases on other issues related to DBMS, operating systems and communications.
3 lecture hours; 3 semester hours

COMPUTER SCIENCE 551

Advanced Database

Advanced study of Relational databases including indexing structure, query optimization, rule and cost-based optimization, transactions and concurrency, recovery techniques, security, distributed database, data mining and other

emerging database technologies. Prerequisite: Computer Science 450.

3 lecture hours, 3 semester hours

COMPUTER SCIENCE 552

Data Mining

This course is dealing with basic concepts, tasks, methods, and techniques in data mining. The focus is on various data mining problems and their solutions, such as association rules, classification, and clustering analysis. Students will learn various techniques for data mining, and applying the techniques to for data mining, and apply the techniques to solve data mining problems.
3 lecture hours; 3 semester hours

COMPUTER SCIENCE 555

Web-Based Application Development

Introduction to fundamental issues in designing a web-based application. Review of the web technologies such as HTML, VBScript, JavaScript, DHTML, Java, XML and server-side technologies using Active Server Pages (ASP), CGI and Java Server Pages (JSP). Design issues include the creation of tiered and scalable applications by the use of COM+ components involving Microsoft Transaction Server and the Java approach of Enterprise Java Beans. Different projects are assigned to create dynamic, database-driven E-Commerce solutions involving, order tracking systems, inventory management, advertising management, creating score reports, personalizing the shopping experience and secure credit card transactions. Wireless E-Commerce applications and developing business-to-business application using XML, SOAP and Biztalk Servers. Prerequisite: Computer Science 400.
3 lecture hours, 3 semester hours

COMPUTER SCIENCE 560

Performance Evaluation and Analysis

This course covers the basic theory and practice of computer systems performance evaluation. The course focuses on three major aspects of performance analysis, measurement, simulation and analytical modeling using queuing theory. The topics will include measurement techniques, monitor tools, simulation models, stochastic processes, queuing theory and analytical modeling techniques. Prerequisite: Computer Engineering312, Mathematics 323 Background in computer architecture and probability and consent of the instructor.
3 lecture hours, 3 semester hours

COMPUTER SCIENCE 561

Network Security

Conventional Encryption and Message Confidentiality, Public-key Cryptography and Message Authentication. Authentication Applications, Electronic Mail Security, IP Security, Web Security, Firewalls, Security in Mobile Network and other Security Systems. Prerequisite: Computer Engineering 471 or 473.

3 lecture hours, 3 semester hours

COMPUTER SCIENCE 562

Cryptography and Cryptanalysis

Student will learn advanced topics in Cryptography and Cryptanalysis including: Classical Encryption Techniques, Block Ciphers and the Data Encryption Standard, Finite Fields, Advanced Encryption Standard, Block Cipher Operation, Random Bit Generation and Stream Ciphers, Public-Key Cryptography and Cryptosystems, Cryptographic Hash Functions, Advanced Cryptanalysis techniques and tools. This course includes a research project involves state-of-the art cryptography and cryptanalysis algorithms/tools.
3 lecture hours, 3 semester hours

COMPUTER SCIENCE 563

Applications Security

This course covers the very important area of application security providing useful examples of how security can be compromised in an application and what preventive measures should be taken from code development and deployment point of view. Topics covered include validation, cross-site scripting (XSS) and cross-site request forgery (CSRF), securely accessing databases and safeguarding against SQL injection attacks, encryption, hashing and preventing information leaks, methods for authenticating and authorizing users, including membership providers and preventing cookie theft, securing and locking down web server, ways to securely use web services, security with Ajax, Web API (Restful services) and MVC frameworks.
3 lecture hours, 3 semester hours

COMPUTER SCIENCE 570

Advanced Robotics

Advanced robotics and automation topics and techniques, including: active robotic sensing, intelligent and integrated manufacturing systems, robotic inspection, observation under uncertainty, multisensor feedback control of manipulators and mobile robots, advanced simulation and monitoring of robotic systems, high level modeling and control, and other topics. Prerequisites: Introduction to Robotics (Computer Science 460 or Computer Engineering 460).

Computer Science

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 571

Cloud Computing

The purpose of this course is to provide introduction to Cloud Computing. Cloud Computing is a new paradigm of computing, where compute resources, infrastructure, platform and software are delivered as services that are optimized for scalability, performance, high availability and cost. In this course, we will delve in the building blocks of Cloud Computing and learn how we can leverage it for more efficient computing. The course will constitute lectures and hands-on labs).

3 semester hours

COMPUTER SCIENCE 584

Machine Perception

An introduction to sensing and machine vision. Vision algorithms that are usable in practical applications, sensing mechanisms and various types of sensed data representation, sense date processing and interpretation for different applications. Prerequisite: Computer Science 400, Computer Engineering 312.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 590

Parallel and Distributed Processing

Models of parallel computation including distributed, multiprocessor, multicomputer. Parallel programming constructs. The mutual exclusion problem, synchronization and communication methods. Multi-computer topologies and topologies and topological embedding. Classes of parallel algorithms and design approaches. Performance analysis of parallel computation, including de-tailed and high level. A major project is required. Prerequisite: Computer Science 400.

3 lecture hours; 3 semester hours

COMPUTER SCIENCE 597 A

Master's Project

Lecture hours and topics to be arranged with Department Chair.

1 credit hour

COMPUTER SCIENCE 597 B

Master's Project

Lecture hours and topics to be arranged with Department Chair.

2 credit hours

COMPUTER SCIENCE 597 C

Master's Project (completion)

Lecture hours and topics to be arranged with Department Chair.

1 credit hour

COMPUTER SCIENCE 598

Thesis in Computer Science

Lecture hours, semester hours and topics to be arranged with Department Chair.

3-6 credit hours

COMPUTER SCIENCE 599

Independent Study in Computer Science

Independent study of advanced topics in Computer Science and submission of project report as required. Problem assignment to be arranged with and approved by the Department Chair.

3 credit hours

COMPUTER SCIENCE 604

Adv Artificial Intell Concept

Prerequisite: Computer Science 505.

3 credit hours

COMPUTER SCIENCE 605

Adv Expert System Design

3 credit hours

COMPUTER SCIENCE 606

Quantum Computing

Classical Computing versus Quantum Computing, Basic Quantum Theory. Quantum Gates and Circuits. Quantum Algorithms. Quantum Programming Language. Deterministic and Nondeterministic Computations. Quantum Cryptography. Quantum Information Theory. Quantum Hardware.
3 credit hours

COMPUTER SCIENCE 651

Big Data Systems & Analysis

Program or Course Description: This course will introduce the state-of-arts computing platforms with the focus on how to utilize them in processing (managing and analyzing) massive datasets. Specifically, we will discuss the MapReduce (Hadoop) framework, which provides the most accessible and practical means of computing in the Cloud. We will also introduce the emerging distributed database and services, such as HBase, Pig/Hive for large scale data analysis. Finally, we will utilize several key data processing tasks, including simple statistics, data aggregation, join processing, frequent pattern mining, data clustering, information retrieval, and other machine learning analytics as the case study for large scale data processing.
3 credit hours

COMPUTER SCIENCE 652

Hadoop and NoSQL DB

3 credit hours

COMPUTER SCIENCE 692

Special Topics-CPSC

Course offered to allow special topics courses in the general area of Computer Science that do not fit into any of the available areas of specialization.

3 lecture hours; 3 credit hours

COMPUTER SCIENCE 693

Special Topics-CPEG

3 lecture hours; 3 credit hours

COMPUTER SCIENCE 694

Written Comprehensive Exam

Students taking comprehensive examinations are required to register for CSE 694.

0 lecture hours, 0 semester hours

COMPUTER SCIENCE 698

PhD Tchg Requirement

By Arrangement

COMPUTER SCIENCE 699

Oral Exam

Seminar is a zero credit course. It involves attending the regular departmental seminars and presenting one's work in one of the seminars.

0 lecture hours, 0 semester hours

COMPUTER SCIENCE 710

Ph.D. Dissertation

The student is expected to work on the accepted topic and come up with original results. S/he has to report the results in the form of a Ph.D. dissertation. The student is encouraged to document the intermediate results in the form of technical reports. S/he is also encouraged to publish these results as they are discovered, in the international professional literature, i.e., refereed conference proceedings and journals. Proof of good work is the acceptance of the results by reputed journals. Intermediate results can also be discussed in departmental seminars. The completed dissertation must be distributed to the dissertation committee members at least two weeks before the dissertation defense. The committee will read it and certify that the dissertation is a work of substantial merit and that it can be defended. It is the responsibility of the student that the final draft of the dissertation addresses all legitimate concerns of the committee members.

1-12 semester hours

Computer Science & Engineering (Ph.D.)

These courses are open for students enrolled in the Ph.D. degree in Computer Science and

Computer Science & Engineering • Counseling

Engineering.

COMPUTER SCIENCE & ENGINEERING 690

Independent Study

Course taken up by a student with a faculty member on a special topic that may not be broad enough to be offered as a regular course.

3 lecture hours, 3 semester hours

COMPUTER SCIENCE & ENGINEERING 692

Special Topics in Computer Science

Course offered to allow special topics courses in the general area of Computer Science that do not fit into any of the available areas of specialization.

3 lecture hours, 3 semester hours

COMPUTER SCIENCE & ENGINEERING 693

Special Topics in Computer Engineering

Course offered to allow special topics courses in the general area of Computer Engineering that do not fit into any of the available areas of specialization.

3 lecture hours, 3 semester hours

COMPUTER SCIENCE & ENGINEERING 694

Written Comprehensive Examinations

Students taking comprehensive examinations are required to register for CSE 694.

0 lecture hours, 0 semester hours

COMPUTER SCIENCE & ENGINEERING 698

Teaching Requirement

Ph.D. students assigned teaching courses to fulfill the teaching practicum of the Ph.D. in Computer Science and Engineering are required to register CSE 698.

0 lecture hours, 3 semester hours

COMPUTER SCIENCE & ENGINEERING 699

Seminar (Oral Exam)

Seminar is a zero credit course. It involves attending the regular departmental seminars and presenting one's work in one of the seminars.

0 lecture hours, 0 semester hours

COMPUTER SCIENCE & ENGINEERING 710

Ph.D. Dissertation

The student is expected to work on the accepted topic and come up with original results. S/he has to report the results in the form of a Ph.D. dissertation. The student is encouraged to document the intermediate results in the form of technical reports. S/he is also encouraged to publish these results as they are discovered, in the international professional literature, i.e., refereed conference proceedings and journals. Proof of good work is the acceptance of the results by reputed journals. Intermediate results can also be discussed in departmental seminars.

The completed dissertation must be distributed to the dissertation committee members at least two weeks before the dissertation defense. The committee will read it and certify that the dissertation is a work of substantial merit and that it can be defended. It is the responsibility of the student that the final draft of the dissertation addresses all legitimate concerns of the committee members.

Varies from 1-12 semester hours

Counseling

COUNSELING 505

Helping Relationships

This course provides a definitive view of COUNSELING including the characteristics of the counselor and the elements of the COUNSELING process. Through experiential exercises and videotaped simulated COUNSELING the student will attain skills such as attending, empathic listening, assessing and focusing on important client concerns, structuring the process, and facilitating change. Motivational Interviewing is the evidenced based theory used in this course.

3-4 semester hours

COUNSELING 512

Counseling Theories

This course surveys the major theories and perspectives of COUNSELING including the Psychoanalytic, Behavioral, Humanistic-Existential, Cognitive, Constructivist-Post Modern, and Systems approaches along with an integrated, eclectic or confluent perspective. Students gain an understanding of the role of theory, the philosophical basis of the theories, the divergent methods utilized, and the utility of each perspective.

3 semester hours

COUNSELING 515

Clinical Skills for Mental Health Counseling

The focus of this course is the skills necessary to work in a psychotherapeutic venue including treatment planning, report writing and diagnosis. The course covers description and diagnosis of the mental disorders as prescribed by the Diagnostic and Statistical Manual.

3 semester hours

COUNSELING 535

Principles of Applied Research

This course provides a grounding in the methodology of social science research as it pertains to the human service field. It addresses the following four content areas: 1) The nature of social science research; 2) Critical analysis

of social science research, 3) Simple descriptive and inferential statistics, and 4) Action research design.

3 semester hours

COUNSELING 538

Guided Research in Counseling

This course provides an opportunity for students to engage in research in the field of Counseling. Involves individual reading and research in COUNSELING involving experimental or theoretical investigation. Prerequisites: COUNSELING 535 or COUNSELING 536; completion of 18 credits in COUNSELING classes.

1-3 semester hours

COUNSELING 540

Group Process: Application and Theory

The course focuses on the dynamics of leadership and various membership roles. Alternative theoretical models of groups will be studied. An experiential group experience is required. COUNSELING 505 and 508 are prerequisites. COUN 540 is geared specifically to the needs of Human Resource professionals. Additional unscheduled lab time is required.

4 semester hours

COUNSELING 545

Social and Cultural Foundation

This course examines how social and cultural factors impact on the individual and subsequently how the counselor attends to and addresses the different social forces and cultural differences in the COUNSELING venue. Offered annually. Equivalent to COUN-516.

3 semester hours

COUNSELING 552

Human Development: a Lifespan Approach

This course provides a survey of major theories and issues in the field of human development. Topics include the nature of human development; research methods in the field of human development; biological bases for human development; the social, emotional and cognitive changes that occur across the lifespan; and how human development affects, and is affected by, family life, peer relationships, schooling, gender, values, and culture.

3 semester hours

COUNSELING 568

The Counselor As Professional

This course serves as an orientation to the helping profession by addressing issues that impact on the provision of services such as ethics, law, certification, and professional role expectations. Completion of this course must precede internship. Offered annually. Equiva-

Counseling

lent to COUN-510
3 semester hours

COUNSELING 570

Strategies and Techniques of Counseling

Building on basic listening skills this course focuses on developing strategies and interventions that promote therapeutic movement for the client. Techniques of the various theoretical orientations will be presented and practiced. Simulated role plays and videotaped sessions provide active opportunities to develop the skills. This course has significant out of class expectations. Prerequisites include completion of at least 9 credits and COUNSELING 505 and COUNSELING 512.

4 semester hours

COUNSELING 575

Practicum

This course provides students an opportunity for supervised work experiences in a supervised work setting. Students participate in an exploratory field experience in selected community, agency, collegiate, or corporate settings. Departmental permission is required. Specific coursework may also be required depending upon concentration or setting.

2 semester hours

COUNSELING 582

Appraisal Procedures for Counselors

In this course students become familiar with a variety of standardized assessment instruments, learn how to evaluate them, select several tests that are appropriate for use in an area of professional responsibility related to a real or anticipated COUNSELING situation, and interpret test results in a supervised setting. Prerequisites include COUNSELING 505, 508 and 610.

3 semester hours

COUNSELING 585

Trauma

This course serves as an introduction to the counselor of the implications of the psychological trauma. Prevalence and impact will be explored as well as various treatment approaches. Minimum prerequisites: COUNSELING 505 and COUNSELING 523, Practicum Level, Post-Graduate or current Employment in the COUNSELING field preferred.

3 semester hours

COUNSELING 588

Selected Topics in Behavioral Medicine

Behavioral medicine is the clinical application of health psychology. This class will cover a range of topics that in health psychol-

ogy that are most relevant to the practice of counseling. Students will explore the Clinical Mental Health applications of the nature of well-being, positive health behaviors, health risk behaviors and COUNSELING clients with chronic disease.

3 semester hours

COUNSELING 593

CPCE Exam

This course will allow students to register for the CPCE, which they are required to pass as part of their degree plan. They currently petition to take the test and the department records if they pass. This is a more official way of recording test taking and passing.

COUNSELING 595

Addictions and Treatment

This course is designed to provide a practical experience for counselors learning to work with alcohol and other drug abusers and other addictions. Covered in the course will be a survey of the various psychoactive drugs and behavioral addictions along with diagnosis and treatment modalities in working with persons with addictions, and those affected by persons with addictions. Prerequisites include Counseling: 505, 512 and 540.

3 semester hours

COUNSELING 599

Independent Study

3 semester hours

COUNSELING 600

CMHC Internship I

The goal of the internship is to further develop and refine the skills established during practicum. You are eligible for the internship component of your program after completing the required coursework and approval from faculty. The internship is the heart of the master's degree training program in COUNSELING at the University of Bridgeport (UB). It provides a venue within which students receive the guidance necessary for development as an entry-level counselor. Program faculties provide didactic and experiential training, which serves as the foundation for the development of skills necessary for independent work in clinical settings. Fee Assessed.

4-6 semester hours

COUNSELING 605

CMHC Internship 2

Clinical Mental Health COUNSELING Internship 2 Program faculties provide didactic and experiential training, which serves as the foundation for the development of skills

necessary for independent work in clinical settings. This reflects on the second part of the internship experience and can only be taken after successful completion of COUNSELING 600. Permission of Instructor/Internship Coordinator Required. Offered in the fall and spring semesters. Prerequisite: COUNSELING 600.

4-6 semester hours

COUNSELING 610

Career & Lifestyle Development

This course provides an introduction to a lifespan approach to career and lifestyle development. Theories, research, and COUNSELING strategies related to career and lifestyle issues are explored. Labor resources and information, career assessment tools, computer assisted career guidance, life roles, cultural considerations, and placement procedures are reviewed as interrelated factors to the study of career development. Prerequisites: COUNSELING 505 and COUNSELING 512.

3 semester hours

COUNSELING 682

Cognitive Behavioral Therapy

The course is designed to teach students the basics of how to conduct Cognitive Behavior Therapy (CBT). Lectures will stress theory and case conceptualization. Exercises will address both theory and application. This course provides a more sophisticated, in-depth look at CBT as it pertains to cases. Students will read two texts and case and/biographical material. They will also participate in in-class exercises that will include operationalizing the problem, case conceptualization, treatment planning, practicing specific techniques (in the roles of therapist and client), and considering special issues for certain populations. Prerequisites: COUNSELING 505 and COUNSELING 512.

3 semester hours

Criminal Justice and Human Security

CRIMINAL JUSTICE AND HUMAN SECURITY 501

Criminal Justice Research Methods

CJHS 501 Criminal Justice Research Methods is a Core course required for the Master's degree in CJHS. This course analyzes research strategies and methods for research in criminal justice and human security. It provides a detailed review of quantitative and qualitative methods, including record reviews, official data, subject surveys, and ethnographic interviews and participant observation. It focuses on the links be-

Counseling • Criminal Justice and Human Security

tween theories and methods, research design, sampling, measurement, data collection, and ethical concerns of protecting human subjects. Students are required to write a research proposal, including objectives, background and methodology.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 511

Human Security and Approaches to Justice

CJHS 511 Human Security and Approaches to Justice is a required core course for the MA in Criminal Justice and Human Security. This course is primarily designed to familiarize students conceptually and substantively with history, concepts, legal documents, and global policy processes related to human rights, humanitarian affairs, international peace and security, and other aspects of human security. Emphasis will be placed the use of legal means, and in conjunction with national and international criminal justice systems. Writing assignments will be designed to develop the ability to communicate cutting-edge human-security related research outside academic circles. Students will also be encouraged to think about how to develop research designs in important areas of human security and justice.

3 credits

GLDP 522/CRIMINAL JUSTICE AND HUMAN SECURITY 522

International Conflict and Negotiation

This course examines theories about and sources of conflict (resource allocation and shortage; ideological, religious, and cultural disagreement; power distribution; perceptions of security; etc) to set the stage for conflict analysis and negotiation. In conflict analysis, the impact of cultural-linguistic systems on agreements and disagreements is examined. Culturally sensitive strategies of negotiation, conflict resolution, and mediation also are examined and practiced. Students will write several case reports on situations of conflict and also prepare a medium-length (20 pp. or so) term paper.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 530

U.S. Law and Criminal Justice

CJHS 530 U.S. Law and Criminal Justice is a required core course for the MA in Criminal Justice and Human Security. The course examines the interrelationships between law, crime, and public policy. Constitutional law affecting the criminal justice system will be surveyed from the perspectives of both legal principles and public policy. Students will research in-depth

a relevant issue in constitutional law.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 532

Law Enforcement Management

This course invites graduates to understand and anticipate the challenges faced by those who have assumed leadership roles within law enforcement agencies. The course takes into consideration leadership styles, approaches to management, decision-making methodologies, dispute resolution, multicultural management, crisis management and interpersonal communication.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 535

Theories on Crime, Norms and Deviance

CJHS 530 Theories on Norms and Deviance is an elective course for the Masters in CJHS. This course discusses the major theories of norms, deviance, and criminal behavior across major cultural spheres and history.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 540

International Criminal Law

CJHS 540 International Criminal Law Human Security and Approaches to Justice is an elective course for the MA in Criminal Justice and Human Security. This course is designed to familiarize students with the history and practice of international criminal law, from the groundbreaking post-World War II tribunals of Nuremberg and Tokyo, the ad hoc tribunals, and the International Criminal Court. General principles and specific rules of law will be examined, with a particular emphasis on the linkage between law and policy objectives. Writing assignments will be designed to develop legal reasoning and argument, as well as articulate policy goals. Students will also be encouraged to think about how to develop research designs in the field of international criminal law.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 550

Comparative Criminal Procedure

CJHS 550 Comparative Criminal Procedure is an elective course for the MA in Criminal Justice and Human Security. The course has four main sections. First, we begin by reviewing how criminal procedure relates to desired standards of democracy and the rule of law. Taking a topic approach organized according to the chronological phases of the criminal process, we examine five distinct stages of this

process: (1) investigation, (2) arrest, search, and seizure, and (3) interrogation, (4) pre-trial court procedures, and (5) the trial itself. In each phase, students first examine criminal procedure principles and practices in the U.S., and then examine these principles and practices in 12 other countries, including England, France, Germany, and Italy from Europe; Russia (exemplifying the post-Soviet world), Israel (illustrating a "security state"), Egypt and South Africa representing Africa, and Argentina and Mexico representing Latin America. Third, we turn our attention to reform movements abroad, with particular attention to the Iberian Peninsula (Spain) and Latin America, including recent reforms in Chile and ongoing reforms in Colombia and Mexico. This section highlights the origins of these reform movements and the assessment of the effects of reform. Finally, drawing on the insights gathered from the comparative analysis above, we return to the U.S. to examine how best practices identified elsewhere compare with current practices here at home.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 559

Cybercrime and Cyberterrorism

CJHS 559 Cybercrime and Cyberterrorism is a course elective for the Masters degree in CJHS. The purpose of this course is to introduce students with the technical, social and legal aspects of cybercrime and cyber terrorism. This course examines the criminal activity that occurs in cyber space, the criminal actors that operate in this space, and how policing and government bodies are managing these crimes and criminals. Finally, the course will take the student into areas where terrorists would try to use the Internet in more threatening ways as a weapon against society.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 560

Transnational Crime—Drugs, Human Trafficking, Arms Shipment

CJHS 560 Transnational Crime—Drugs, Human Trafficking, Arms Shipment is a course elective for the Masters degree in CJHS. This course is an examination of two transnational criminal enterprises, the smuggling of drugs and weapons, and trafficking of persons that draw on similar criminal groups methods, and motives. It covers analytic approaches to studying the topics; the role of organized and other forms of crime to each; how agents operate in spe-

Criminal Justice and Human Security

cific geographic contexts; and how state and non-state actors are responding to the smuggling and trafficking of persons. The class examines the rise of the phenomenon, the role of conflicts in illicit trade and the actors who facilitate this trade and the policies that are needed to address it.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 578

Topics in Criminal Justice Policy

CJHS 578 Topics in Criminal Justice Policy in a course elective for the Masters degree in CJHS. This course is designed to provide students a broad overview of criminal justice policies, both domestic and comparative. It examines the goals and values underlying justice policy, the social construction of crime problems and the process of policy development. Includes readings and discussion on: law and justice policy in a federal system; crime prevention and institutional responses to crime; emerging cross-national issues in crime, law, and policy.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 591

Internship

The Graduate Internship is completed once the student has completed 18 credits in the CJHS MA program. It serves as the venue in which students can gain valuable work experience in the field of Criminal Justice and Human Security. It also gives students the opportunity to utilize the theories and ideas learned in CJHS courses.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 598

Tutorial

The Tutorial is offered at the completion of the internship for students in the Master of Arts in Criminal Justice and Human Security program. As part of the Tutorial, students write, reflect and present on their internship experience and its relationship with the theoretical underpinnings of their program of study. The student in this class is also invited to reflect on herself/himself and identify interests, aspirations, personal strengths, and areas needing more work. This requires an assessment of one's skillset or toolbox for navigating life's challenges. Students will assemble a portfolio of all of the significant work that they have completed during the Master's program and reflect on that work as they prepare for the next career steps. The tutorial also serves as the venue for the program's comprehensive exam that includes both an oral and a written component. Prereq-

uisite: CJHS 591 and completion of at least 21 semester hours in the CJHS program.

3 credits

CRIMINAL JUSTICE AND HUMAN SECURITY 599

Thesis or Project Demonstrating Competence

The thesis represents the culmination of the MA in Criminal Justice and Human Security class. It demonstrates competency in the major as well as the track in which the student has chosen to specialize. The Thesis requires identifying a theme or topic selected by the student in consultation with the thesis adviser and this is followed by detailed research on the topic and the analysis of findings in the form of substantial written work. This is normally done within the confines of the student's final semester of study in the program. Students also have the option of a project demonstrating competency (PDC), which includes key papers from the student's graduate study. In creating a PDC, students' papers must be revised and refined to reflect thesis-level work. They should be contextualized through a separate detailed text that includes a literature review and explains both the significance of previous papers in the PDC and the ways in which they correlate.

3 credits

Dental Hygiene

DENTAL HYGIENE 500

Leadership in Dental Hygiene

This course focuses on the theories, concepts, and principles of leadership skills related to personal behavior, communication, organizational and leadership styles. This course explores the opportunity to develop leadership roles appropriate to the dental hygiene profession.

3 lecture hours, 3 semester credits

DENTAL HYGIENE 501

Grant and Contract Writing

This course will provide the graduate students with an introduction to the process of grant application, award, post award management, types of grants and contracts, content and language of announcements for funding, and requirements of various funding agencies. The steps to writing a grant proposal for healthcare funding from private, state, and federal funding sources will be covered.

DENTAL HYGIENE 502

Evidence Based Research

This course is designed to prepare the student to utilize research as the foundation for clinical

decision making. The practical application of evidence-based decision making to the clinical management of individual patients is explored.

3 lecture hours, 3 semester credits

DENTAL HYGIENE 503

Clinical and Didactic Educational Concepts

This course will introduce the graduate student to a procedure for developing a competency-based curriculum. The student will learn the steps in developing a lecture, module of instruction, and a course. Cognitive, affective, and psychomotor learning theories are addressed along with clinical teaching methodologies.

3 lecture hours, 3 semester credits

DENTAL HYGIENE 504

Dental Hygiene Student Teaching

This course will provide students with the practical knowledge and skills to function as a competent clinical/laboratory/didactic instructor. Psychomotor skill development and analysis, remediation of performance concerns, evaluation, and faculty calibration are areas stressed.

1 lecture hour, 4 clinic/laboratory hours, 3 semester credits

DENTAL HYGIENE 506

Global Healthcare

This course will introduce health care systems and discuss the contexts in which they develop and function. Specific attention will be paid to the developmental history, financing and delivery infrastructure. The changing U.S. healthcare system will be discussed as will the approaches used in other countries to manage and organize health care. The impact of global health and disease, social determinants of health and future challenges and opportunities for healthcare systems will be examined.

3 lecture hours, 3 semester credits

DENTAL HYGIENE 508

Curriculum Development and Management

This course provides the student with the study and development of models for dental hygiene curriculum design and implementation. The development and utilization of competencies and the evidence based instruction is emphasized.

3 lecture hours, 3 semester credits

DENTAL HYGIENE 512

Dental Public Health

This course is designed to prepare students for leadership roles in public health settings. The graduate student will learn the skills necessary to study health states in populations and its applications in basic science, general clinical re-

Dental Hygiene

search, and public health. Emphasis is placed on administration, consumer advocacy, epidemiology, the assessment, planning, implementation, and evaluation stages of programs, and expanded and alternative dental hygiene care.
3 lecture hours, 3 semester credits

DENTAL HYGIENE 513

Contemporary Issues in Dental Hygiene

This course will explore current concepts and challenges facing dental healthcare delivery through the development of collaborations across healthcare disciplines, delivering culturally and linguistically competent healthcare, and evaluating current and proposed dental healthcare workforce models. Initiatives serving the purpose of guiding national health promotion and disease prevention to improve the dental health of the U.S. Population and informing the american public on health matters will be examined.

DENTAL HYGIENE 515

Statistical Reasoning

This course will provide a basic overview of statistical analysis and how certain tests can be performed to determine if there is a statistically significant relationship between variables. The student will receive an introduction to the use of statistical software for data analysis.

3 semester credits

DENTAL HYGIENE 516

Concentrated Practicum

This course provides the Graduate student with the opportunity to take an active role in the development of a practical experience at a site relevant to their specialized area of concentration. The student identifies a site and mentor to supervise the practicum prior to the start of the course. The practicum faculty advisor works closely with the student throughout the course providing strategies to help the student achieve a successful outcome.

1 lecture hour, 6 laboratory/clinic hours, 3 semester credits

DENTAL HYGIENE 520

Dental Hygiene Capstone

Original research in a chosen topic relating to the graduate student's area of specialization will be studied, conducted, written and presented.

1 lecture hour, 6 laboratory/clinic hours, 3 semester credits

DENTAL HYGIENE 521

Dental Hygiene Capstone Extension

1 credit

Design Management

DESIGN MANAGEMENT 400

Collaborative Design Studio I

Design Management is an inter-disciplinary field that combines various forms of design including graphic design and branding, interior design and architecture, industrial design, and fashion and textile design. Collaborative Design Studio I will begin to equip students with the skills they need to work with cross-functional teams. This is done through client-based design projects that originate from local Fortune 500 and other global organizations. Students will learn communication, team building, and leadership skills as they hone their design talents.

2 semester credits

DESIGN MANAGEMENT 401

Collaborative Design Studio II

Building on the foundation formed in Collaborative Design Studio I, students will again be grouped in inter-disciplinary teams to complete an innovative, client-based design project. The projects for this course will focus the students' attention on the triple bottom line: profitability, sustainability, and responsibility.

2 semester credits

DESIGN MANAGEMENT 500

Collaborative Design Studio III

Collaborative Design Studio III will continue to equip students with the skills they need to work with cross-functional teams on real world, client-based assignments. Students will learn communication, team building, and leadership skills as they hone their design talents.

2 semester credits

DESIGN MANAGEMENT 501

Collaborative Design Studio IV

Collaborative Design Studio IV will continue to equip students with the skills they need to work with cross-functional teams on real world, client-based assignments. Leadership skills will be given extra attention during the second year's teamwork.

2 semester credits

DESIGN MANAGEMENT 410

Design Management I

Design Management is a multifaceted, organic discipline whose exact definition can differ between organizations and Design Managers. In Design Management I, students will explore various definitions of Design Management with the goal of defining their own course of study. By reading and writing about relevant

case studies, students will examine a wide variety of applications of design management. Students will be required to present their description of design management by the end of the term.

3 semester credits

DESIGN MANAGEMENT 411

Design Management II

As the student's concept of design management deepens, they will begin to explore the implications that design management has on an organization. Design Management II will describe the six core principles of the program: Marketing, Leadership, Finance, Legal, Operations, and Strategy, as well as the triple bottom line: Profitability, Responsibility, and Sustainability. Students will learn the ripple effect their design decisions have on an organization as they broaden their understanding of the field of design management.

3 semester credits

DESIGN MANAGEMENT 510

Design Management III

Students will continue to further their understanding of design management. Through relevant case studies, text readings, and lectures, students will develop a plan for the application of design management principles within their organization. The final project for this class includes an action plan for an organization where design management principles will make a meaningful impact on their triple bottom line.

3 semester credits

DESIGN MANAGEMENT 511

Design Management/Thesis IV

Design Management/Thesis IV requires students to develop an idea that embraces and explores a particular aspect of design management. Students will work independently on a paper that broadens the design management field. This unique challenge demands that the students demonstrate an understanding of the six core principles of the program: Marketing, Leadership, Finance, Legal, Operations, and Strategy, while injecting their own interpretation of design management based on their experience, talent, and culture.

3 semester credits

DESIGN MANAGEMENT 598

Internship/Co-op

Fairfield County and the surrounding tri-state area are rich in organizations in need of qualified design management interns. Through strategic partnerships and student initiative, internships will be established to give students

Design Management

first-hand experience as a design manager. Students will report on their experience and that report, coupled with his or her manager's evaluation, will form the basis for determining the student's grade. Internships are taken by domestic students; Co-ops are taken by international students.

1-3 semester credit

DESIGN MANAGEMENT 599

Special Projects

Special projects and independent study give students the opportunity to explore specifics of design management as they relate to their own area of expertise. Students will be encouraged to seek out opportunities to gain practical experience in the design and design management fields. This course should include field, library, and institutional research on a specific aspect of design management. Student evaluation will be based on a report submitted by the student.

2 semester credits

MARKETING 400

Marketing

This course explores the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual, organizational, and societal objectives. The underpinnings of marketing discipline will be taught through text, case studies, articles, and class discussion. Mastery of these principles will come through individual and group assignments to create marketing solutions for real-world products.

3 semester credits

MANAGEMENT 400

Leadership & Management

This course will introduce students to the primary tenets of leadership and management. Successful organizations foster innovation and efficiency. Students will evaluate the dynamics related to realizing organizational progress through the effective and efficient use of talent, structure, culture, methods, and technology. In addition to the required textbooks, students will research industry journals as a way to evaluate the application of leadership and management techniques in real settings across various industries.

3 semester credits

ACCOUNTING 400

Financial Accounting

This course will provide managers with the

skills necessary to read, interpret, and apply information about an organization's financial position. Managerial accounting and finance concepts will precede financial statement analysis. Topics covered include: how accounting data is generated in business operations, how financial statements are created, management of finance to maximize return on investment, and stakeholder equity. Students will participate in case work applying the principles presented in class.

3 semester credits

BUSINESS LAW 400

Legal Environment of Business & Ethics

This course focuses on how the legal environment of business impacts business decisions with broad ethical, international, and critical thinking examples throughout. Knowledge of the legal aspects of running a business will enable the student to conduct business within the legal framework and understand the ethical dimension of business decisions. Topics include: Introduction to Business Ethics and the Judicial and Legislative Process; Litigation, Alternative Dispute Resolution, and the Administrative Process; Business Crimes, Torts, and Contracts; The Constitution and Government Regulation of Business; Business Organizations; Employment and Labor Laws; Consumer Protection and Environmental Regulation; and International Law and Ethical Conflicts.

3 semester credits

INFORMATION SYSTEMS AND KNOWLEDGE MANAGEMENT 400

Information Systems & Technology

Information technology has become a key component for accomplishing strategic and operational goals in organizations today. As such, organizations expect their new employees to have a basic understanding of information technologies. To accomplish organizational goals and advance one's career path, one needs to understand and apply information technologies effectively, efficiently, and creatively. The purpose of this course is to provide an introduction to information systems and technology and to familiarize students with the fundamental concepts and principles of information systems. The course is targeted for graduate students who have little or no background in information systems. Therefore, it focuses on breadth of coverage rather than depth in any specific area.

3 semester credits

MANAGEMENT 582

Small Business & Entrepreneurship

A comprehensive review of the marketing, operational, financial, product, service, and business strategy and plans that must be mastered and developed as foundation for start-up of a small business or entrepreneurial enterprise. In addition, growth of existing business through intrapreneurship is also covered. Students will develop a comprehensive business plan for a business of their choice which is acceptable to the professor.

3 semester credits

DESIGN MANAGEMENT 580

New Product Commercialization

The objectives of this course are to understand and apply concepts and techniques of product commercialization. The course focuses on taking student-created product concepts and having student teams drive the concepts to become actual products. Product design, prototype creation, market analysis, and financial analysis all come together with the student team to create a viable product. If ideas are worthy, teams may work with the University's CTech IncUBator to actually commercialize their products. Students are strongly encouraged to find a sponsor to actually commercialize their product ideas.

3 semester credits

East Asian and Pacific Rim Studies

GLDP/EAST ASIAN AND PACIFIC RIM STUDIES 401/501

Graduate Seminar in Research Methods

This is an introductory course in qualitative and quantitative research methods. It is designed to introduce you to basic concepts and issues (statistical, analytical, and ethical) encountered in research investigation. We will discuss what research is, the tools of research, research design, and writing the research report. Included will be an introduction to a diversity of research methods, including survey, historical research, experimental methods, content analysis, and so forth. An overview of statistical means of data interpretation also will be presented, including correlation, t-tests, ANOVA, Chi-Square Test, Sign Test, regression analysis, and so forth.

3 semester hours

EAST ASIAN AND PACIFIC RIM STUDIES 500

Graduate Co-op/Internship in East Asian and Pacific Rim Studies

Students may complete a curricular practical training that reflects the competencies that the students has developed in the East Asian and

Design Management • East Asian and Pacific Rim Studies

Pacific Rim Studies program. Students need to have their supervisor in the training certify satisfactory task performance and students must submit a written evaluation of their experience.

1-3 semester hours

GLDP/EAST ASIAN AND PACIFIC RIM STUDIES 522

Conflict Analysis and Resolution

This course examines theories about and sources of conflict (resource allocation and shortage; ideological, religious, and cultural disagreement; power distribution; perceptions of security; etc) to set the stage for conflict analysis and negotiation. In conflict analysis, the impact of cultural-linguistic systems on agreements and disagreements is examined. Culturally sensitive strategies of negotiation, conflict resolution, and mediation also are examined and practiced.

3 semester hours

EAST ASIAN AND PACIFIC RIM STUDIES 525

Models of Good Governance in the Asia-Pacific

This course examines the philosophical and the political underpinnings of good governance of the Asia-Pacific region. This course will taken into account the two major reference points for political philosophy in the region- Western Political Philosophy and East Asian political philosophy with special attention being given to Confucianism. Students will also consider the role of Islam and its political implications with particular attention being paid to Indonesia, Malaysia and the Moros regions of the Philippines. The course will also note the unique process of transition from authoritarian to democratic rule in Japan, Korea, Taiwan, and in the Peoples Republic of China.

3 semester hours

GLDP/EAST ASIAN AND PACIFIC RIM STUDIES 528

Sociopolitical Implications of World Religions

This course identifies the underlying conditions needed for the realization of a stable global economy and it highlights the ways in which terrorism impacts on the stability of markets and on investment and lending trends and on interest rates in affected regions and stages. The course also explores the practical rationale for terrorism as well as terrorism's ideological and philosophical roots as well as the actual historical trajectory of terrorist organization and states. Through the case study method, we will review those venues where terrorism has been diffused and attempt to understand such developments and their applications to contemporary society.

3 semester hours

EAST ASIAN AND PACIFIC RIM STUDIES 530

Pacific Rim Culture and Development

This course introduces students to the challenges of socioeconomic and political development in the Pacific Rim with its sharply differing approaches to development, due to factors such as traditions, which have existed in some cases for millennia and are also influenced sharply by histories of Eastern and Western colonialism and cross-cultural differences. The course introduces students to the modern models of developments which have been employed by the United States, Australia, China, Singapore, Chile, Japan, Taiwan, and Korea and will consider the lessons learned from these processes. The course will also explore the major religious and cultural trends as well as some of the historical developments that have contributed to recent East Asian economic successes.

3 semester hours

EAST ASIAN AND PACIFIC RIM STUDIES 533

Chinese Foreign & Economic Policy

The rise of China provides both opportunity and a challenge to the world, especially its Belt and Road Initiatives, the Asian Infrastructure Investment Bank and other strategic and economic policies.

3 semester hours

EAST ASIAN AND PACIFIC RIM STUDIES 524

Political and Economic Integration

The course will consider the unique challenges that have slowed efforts to create an East Asian and eventually an Asia Pacific Economic Community. Students will dedicate special attention to the creation and development of the Asia Pacific Economic Cooperation and to the issue of political and economic hegemony and the ongoing disputes related to territorial disputes and interpretations of history. Students will also be introduced to the legal instruments and treaties that facilitated European integration as a possible measure or eventual standard of successful integration.

3 semester hours

EAST ASIAN AND PACIFIC RIM STUDIES 563

Business and Diplomacy—East Asia vs. the West

This course will consider the differing approaches to business and diplomacy of East Asia and the West. It will consider the ways in which the two approaches differ from each other, considering elements such as "face," direct versus indirect approaches, and the primacy of relationship versus the primacy of legal contracts. The course will be conducted based on a series of case studies and simula-

tions where students will be asked to plan and participate in intercultural negotiations and planning.

3 Semester Hours

GLDP/EAST ASIAN AND PACIFIC RIM STUDIES 591

Internship

The Graduate Internship is completed once the student has completed at 21 credits in the GLDP program. It serves as the venue in which students can accomplish two important outcomes, i.e., they can apply the foreign language that they have been studying in an overseas setting (international GLDP students may do their internship in the US if they already speak a second world language in their home country rather than English) and they can intern in an agency or organization where the skills that they have acquired in the GLDP academic program can be put into practice.

3 semester hours

EAST ASIAN AND PACIFIC RIM STUDIES 598

Tutorial

The tutorial is offered at the completion of the internship of students in the Master of Arts in Global Development and Peace. The Tutorial is designed to allow students to reflect on and present on the internship experience. The tutorial invites students to reflect on the internship experience based on the student's experiences prior to and during the tutorial as well as a broader reflection on the mission of and lessons learned from the organization where the student has interned. The tutorial also prepares students for the program's comprehensive exam that includes both an oral and a written component. As a part of the tutorial students also assemble a portfolio of all of the significant work that they have completed during the program and a written reflection on that work. Much of the work of the tutorial is done independently of the classroom experience. Students are welcome to meet with the instructor as they progress in preparations and they are strongly encouraged to do so. (Prerequisites: Student must have completed 24 credits in the program including the internship).

3 semester hours

EAST ASIAN AND PACIFIC RIM STUDIES 599

Thesis

The thesis represents the culmination of the MA in East Asian and Pacific Rim Studies demonstrates competency in the major as well as the track in which the student has chosen to specialize. The Thesis requires identifying a theme or topic selected by the student in

East Asian and Pacific Rim Studies • Economics

consultation with the thesis adviser and this is followed by detailed research on the topic and the analysis of findings in the form of substantial written work. This is normally done within the confines of the student's final semester of study in the program.

3 semester hours

Economics

ECONOMICS 400

Economics

This is a course for managers in both micro and macro economics. Topics addressed will include the prevailing patterns of economic institutions, national income analysis, international trade, prices and production; economic development, market structure and consumer decision analysis, competition, monopoly and monetary policy issues. Prerequisites: Admission to graduate study.

3 semester credits

ECONOMICS 500

Economics & Finance

This course is a graduate introduction to the study of economics and finance, two interrelated and integral fields in the study of business. This course develops the foundation in understanding how the real economy works, and how finance connects the real economy to the monetary system via the financial system. The course starts by discussing how the market system works, including basic macroeconomic concepts relevant to the study of finance. Subsequently, the course delves into how capital budgeting decisions made by firms are essential to achieve macroeconomic goals. Topics include financial statements, time value of money, the financial markets, and how firms make capital budgeting decisions. In addition to textbook readings, students will use current events to complete.

3 semester credits

Education

Note: Teacher Leadership courses are designated with the prefix of EDMM. Specific titles are listed with the programs of study in the chapter for graduate studies in the School of Education. Consult the division faculty for detailed course descriptions.

EDUCATION 440

Methods and Materials in Teaching Language Arts

This course focuses on the teaching and learning of the English language arts with an emphasis on instructional planning and assessment using current state and national standards.

ED 440C concentrates on the language arts processes and practices implemented in the elementary-level curriculum, grades K-6.

2 semester hours

ED 440M concentrates on the language arts processes and practices for middle school settings, grades 4-8, with an emphasis on interdisciplinary connections.

3 semester hours

ED 440J concentrates on the issues and pedagogy of teaching the English language arts and literature in secondary-level settings, grades 7-12.

3 semester hours

EDUCATION 441

Methods and Materials in Teaching Mathematics

This course deals with methods of teaching mathematics. Materials are examined for their use in diagnosis, remediation and enrichment, as well as emphasizing planning and instruction using current state and national standards.

ED 441C concentrates on the scope and sequence, as well as appropriate activities, for the elementary level.

ED 441M concentrates on the appropriate practices for middle school, grades 4-8, with an emphasis upon interdisciplinary connections.

ED 441J concentrates on the content and methodology of mathematics for secondary students.

ED 441C — 2 semester hours

ED 442M, J — 3 semester hours

EDUCATION 442

Methods and Materials in Teaching Social Studies

This course assists students in developing competencies in unit planning, instructional strategies, and the utilization of diverse materials and technology for teaching the social studies. Students design courses of study that integrate state and national standards; contemporary thinking about the teaching of social studies is stressed.

ED 442C concentrates on the activities, planning, and materials for social studies in elementary classrooms.

ED 442M concentrates on the content, practices, and planning appropriate for the middle level, grades 4-8. Interdisciplinary possibilities are examined.

ED 442J concentrates upon appropriate con-

tent, planning, and practices for 7-12 classrooms.

ED 442C — 2 semester hours

ED 442M, J — 3 semester hours

EDUCATION 443

Methods and Materials in Teaching Science

This course introduces teaching approaches, instructional materials, and contemporary thinking about science education, as well as emphasizing planning and instruction using current state and national standards.

ED 443C concentrates upon the practices and materials for effective science teaching. Some concrete science content knowledge for elementary teachers is integrated into the pedagogical practices of the course.

ED 443M concentrates upon the appropriate content and practices for the middle grades, 4-8. Interdisciplinary possibilities are examined.

ED 443J concentrates upon the appropriate content and practices for the secondary science curriculum.

ED 443C — 2 semester hours

ED 443M, J — 3 semester hours

EDUCATION 446

Methods and Materials in Teaching a World Language

This course familiarizes the student with the major purposes of the study of world language in the schools. It introduces the strategies and classroom activities for effective teaching. It examines appropriate materials for teaching world languages.

3 semester hours

EDUCATION 447

Methods and Materials of Teaching English as an Additional Language

This course explores the language needs of children who are learning English as an additional language. It reviews and explains effective methods and strategies for teaching such students. The most appropriate materials are identified and utilized.

3 semester hours

EDUCATION 450

Field Experience

This course is a structured observation in a private or public school. The goals of the course are to facilitate the candidate's awareness of self, of school pupils, and of prospective teachers. The course is an elective for other majors. The number of semester hours taken should be determined with the student's advisor. Two semesters of field experience are

Economics • Education

required a total of (6 credit hours); 3 credit hours each semester.

6 semester hours

EDUCATION 500

Research Techniques and Report Writing

This is an introduction to the research process, to the understanding of published research, and to the application of research findings to education. The course prepares the student to write formal papers and research reports.

3 semester hours

EDUCATION 503

Diverse Students: Differentiated Instruction

This course focuses on pedagogy based on the philosophy that each student is a unique learner and that instruction should be provided that meets the needs of diverse students. Methods for addressing the needs of students' diverse strengths, background, experiences, gender, linguistic, and learning styles will be presented. It is recommended that the course will be taken after completion of EDU 564: Education of Students with Exceptionalities.

3 semester hours

EDUCATION 505

Intercultural Relations: Teaching and Learning in Multicultural Environments

This course presents an overview of theories about educational, social and cultural problems of minority culture students, about teacher perceptions and expectations, about parental involvement. The course also critically analyzes policies and practices of multicultural and bilingual education. The thrust of the course is to develop appropriate and non-biased methods of teaching all children.

3 semester hours

EDUCATION 506

Ethical/Legal Issues in Education

This course provides a basic understanding of ethical and legal issues related to educational administration and leadership. Students will study case law and apply their knowledge through case studies. Practicum hours required.

4 semester hours

EDUCATION 509

Psychological Foundations in Education

This is concerned with the work of educators in general and teachers in particular. Topics include student characteristics (personality, growth, and development, adjustment, etc.) motivation, learning, measurement and evaluation, objectives, and teaching methods.

3 semester hours

EDUCATION 511

Statutory Requirements

This course addresses the topics required for Connecticut licensure in teaching, including topics in health and intergroup relations.

0 semester hours

EDUCATION 515

Clinical Experience—Internship Program

In the first semester interns will work under supervision in a learning environment, providing a variety of paraprofessional services to the schools. In the second semester the internship is designed to provide (1) a more in-depth perspective of teaching and learning through the development of a portfolio and (2) an opportunity to reflect on and document the impact of the internship experience.

4 semester hours

EDUCATION 536

Adolescent Literature

This surveys books and periodicals emphasizing criteria for selection and evaluation, procedures for establishing a program of literature in the schools, and opportunities to explore the interpretation of literature in the classroom through drama, storytelling, book reporting, and choral speaking. Education 536C is focused on children's literature. Education 536J concentrates on adolescent literature. Education 536M concentrates on a pre-adolescent literature.

EDUC 536C – 2 semester hours

EDUC 536M/J – 3 semester hours

EDUCATION 537

Middle Grades Interdisciplinary Teaching and Teams

This course focuses on the developmental levels of the middle school student, appropriate instructional climates for middle grade classrooms, and interdisciplinary planning across subjects in English, History/Social Studies, Math, and Science.

3 semester hours

EDUCATION 540

American Culture and Education

This course addresses cultural issues related to education. Topics include multicultural issues in America and the interpretation of demography in relation to schooling. The search for national identity and educational alternatives are explored.

3 semester hours

EDUCATION 541

Classroom Management in Teaching English as an

Additional Language

This course focuses on classroom management as an effective tool for a positive learning environment. Planning, implementing, and maintaining management procedures are discussed.

2 semester hours

EDUCATION 542

Theory and Methods of Teaching English as an Additional Language

This course addresses the foundations of second language learning theory, research, and discourse in educational settings. It also focuses on strategies for teaching dual language instruction with emphasis on a culturally responsive environment and on legal issues as they apply to schooling for English language learners.

3 semester hours

EDUCATION 543

Second Language Acquisition

This course provides an overview of the major theories of first and second language acquisition. It applies these theories to classroom pedagogy and examines the influences of parents, siblings, and peers, as well as aspects of formal and informal education. It also examines the influence of region, culture, class, and gender on language acquisition; legal and ethical issues relative to language competency are addressed.

3 semester hours

EDUCATION 545

English Language and Literature for Teachers

The purpose of this course is to give prospective teachers of English as an additional Language (ESL) a rich knowledge of literature with potential classroom applications for multicultural settings. Selection and analysis of language processes and literature for elementary and secondary-level classrooms are included.

3 semester hours

EDUCATION 546

Linguistics for Teachers

This course acquaints teachers with the major analytical frameworks in linguistics. It surveys the discipline of linguistics, the study of human languages, contrastive features, and language systems.

3 semester hours

EDUCATION 548 C OR M

Directed Observation and Supervised Teaching in the Elementary (C) or Middle School (M)

Education

This is a full-time field experience in a selected elementary or middle school. This meets requirements of Connecticut's TEAM program. Department permission is required.

6 semester hours

EDUCATION 548J

Directed Observation and Supervised Teaching in Secondary Schools (J)

This is a field experience in selected secondary schools. This meets requirements of Connecticut's TEAM program. Departmental permission is required. Department permission is required.

6 semester hours

EDUCATION 558

Evaluation of Instructional Outcomes

This course gives students an orientation to the topics, issues, and concepts in the field of educational testing and measurement. Topics include methods for evaluating instructional programs, types of instruments for collecting data, and a variety of standardized, criterion-referenced, and performance-based assessments. The construction of teacher-made tests and the interpretation of different types of test scores are included.

3 semester hours

EDUCATION 560

Human Growth and Development

This course provides an opportunity for the study of the subject matter of human development, with a concentration upon the uniqueness of the adolescent period. Theoretical models and methods of researching human growth and development including cognition, physical, social, emotional and moral development will be studied. Genetic and environmental influences of human development will be discussed. Implications for classroom instruction in the middle grades will be explored.

3 semester hours

EDUCATION 562

Today's Diverse Learner

This course will examine the diverse demographics of students in American colleges and universities, including international college students and discuss management of the culture. Students will research the literature on how college impacts students who attend as well as current trends and topics in higher education.

3 semester hours

EDUCATION 564

Education of the Exceptional Student

The focus of this course is placed upon the

instructional methods and materials for exceptional students. General management techniques and administrative procedures are considered in light of the student's special needs in order to identify and work effectively with the major categories of exceptionality, including the learning disabled, the handicapped, and the gifted, etc. Requirements of the 94-142 law are examined.

3 semester hours

EDUCATION 565

Effective Planning and Instruction

This course focuses on high leverage planning and instructional strategies for effective teaching. An overview of the requirements for the clinical portfolio practice in resident (student) teaching is included.

1 semester hour

EDUCATION 566

Contemporary Problems in Education II

This independent study fulfills the Final Degree Option for the Master's degree. Students pursue an individually planned project under advisement of a faculty member. Extensive reading supports the project. May be taken as an extension of ED 500 or ED 565.

3-6 semester hours

EDUCATION 571

Diagnosis and Intervention of Reading and Language Arts Difficulties

This course examines the range of problems that cause students difficulties in literacy processes. It examines assessment instruments and strategies for intervention and instruction in Reading and Language Arts.

3 semester hours

EDUCATION 572

Advanced Diagnosis of Reading and Language Arts Difficulties

This course is for students interested in working with learners experiencing profound difficulty in reading, writing, and other literacy processes. Students learn strategies for assessing students referred for specific literacy instruction. Both individual and group diagnostic assessments are used. Students learn how to interpret testing results and make recommendations for improvement. Prerequisite: EDUC 571

2 semester hours

EDUCATION 573

Early Literacy Instruction

This course concentrates on the theories, instructional applications, and materials for the

teaching, learning, and assessment of literacy processes in early childhood and up to grade 2. Topics include emergent literacy, phonological awareness, and phonic knowledge and instruction.

2 semester hour

EDUCATION 574

Developmental Reading in the Elementary School

This course focuses on the theories, instructional applications, and materials for the teaching, learning, and assessment of literacy processes in elementary classrooms. Topics include strategies in word recognition, vocabulary development, and comprehension. The developmental needs of beginning readers are emphasized.

3 semester hours

EDUCATION 575

Reading and Writing in the Content Areas

This course focuses on the teaching and learning of comprehension and composing processes and strategies for content area disciplines. Critical reading and study strategies for expository text materials are emphasized.

3 semester hours

EDUC 575M concentrates on appropriate materials, strategies, and assessments for reading and writing in middle grade settings, 4-8.

EDUC 575J concentrates on the comprehension and composing processes of students in secondary-level settings, grades 7-12.

3 semester hours

EDUCATION 576

Developmental Reading in Middle Grade Classrooms

This course focuses on the theories, instructional applications, and materials for the teaching, learning, and assessment of reading and related literacy processes in middle grade (4-8) classrooms.

3 semester hours

EDUCATION 580C

Special Problems in Elementary Education

This is intended for students interested in independent study or research of a selected topic or problem in consultation with a faculty member. By arrangement. Faculty permission required.

1-6 semester hours

EDUCATION 580J

Special Problems in Secondary Education

This is intended for students interested in independent study or research of a selected

Education

topic or problem in consulting with a faculty member. By arrangement. Faculty permission required.

1-6 semester hours

EDUCATION 580L

Special Problems in Behavioral Science Research and Computer Applications

This course is designed to enhance the efficiency and scope of one's research through the development of specific competencies needed for computer processing. Students will be exposed to computer-assisted instruction (C.A.I.) and computer managed instruction (C.M.I.), and will develop projects that focus on computer applications. By arrangement. Lab fee required.

1-6 semester hours

EDUCATION 590

Computer Literacy

This is designed to provide the student with hands-on experience in the use and application. The student will have the opportunity to evaluate existing course work and its application as well as the writing of elementary programs in Logo and Basic. Lab fee required.

1-3 semester hours

EDUCATION 591

Software Evaluation

This is designed to have students develop software evaluation criteria for the purpose of evaluating published computer programs. The student will have an opportunity to review educational programs.

1-3 semester hours

EDUCATION 592

Digital Literacy for Educators

This course is an introductory to expose students to a variety of technologies used by and with persons with exceptionalities. Students will gain hands-on skills in designing technology-based instructional materials for students. A focus on Universal Design for Learning is a the core of this course with a goal of providing students with the ability to adapt technology, instruction, and assessment to meet a range of students needs.

3 semester hours

EDUCATION 595

Thesis Research — Masters Level

This is a culminating experience option at the Master's level for Education students.

2-6 semester hours

EDUCATION 601

Social Foundations of Education

Having a broad understanding of the historical,

philosophical, and sociological foundations of education informs how educators design curricula, adjust instructional strategies, interact with learners, families, and communities, and determine solutions to ethical problems. Students will examine school as a social institution, significant educational innovations, and how each of these informs educating a diverse population in an urban context.

3 semester hours

EDUCATION 605

Contemporary Issues in Urban Education

Across the United States, urban educators face a myriad of inextricably linked challenges to and opportunities for effectively educating students. Broad challenges include social and economic inequities, outdated pedagogical approaches, inexperienced staff, perceptions of race and class, and failed educational reforms among others. Opportunities are evident in family, school, and community partnerships; critical praxis embodied in the work of educators; culturally relevant and sustaining pedagogy, and more. Students will engage in careful reflexive analysis of both the challenges and opportunities and their roles and responsibilities as teacher leaders in urban settings.

3 semester hours

EDUCATION 610

Teacher Leadership: Theory and Practice

Teacher leaders fulfill many roles—resource provider, curriculum specialist, instructional coach, mentor, and more. Working alongside the school principal and other administrators, teacher leaders often facilitate and provide support for the implementation of evidence-based practices and instructional improvements designed to yield better student learning outcomes. Students will examine ways to develop a culture of collective responsibility in the schools and expand their spheres of influence beyond the walls of the classroom. Topics include building a data-rich ecosystem for monitoring teaching and learning, supporting professional learning for continuous improvement, fostering a collaborative culture and healthy school climate, partnering with families, and advocating for students and the profession.

3 semester hours

EDUCATION 615

Curriculum Theory

Curriculum is multi-dimensional. It encompasses the content to be taught, the outcomes

to be achieved, the interactions between learners and teachers and among learners, and the dynamic relationship between theory and action. Students will analyze major historical, sociological, philosophical, and psychological perspectives in curriculum theory. Contemporary curriculum issues including common models of curriculum development and adoption will be emphasized.

3 semester hours

EDUCATION 620

Effective Learning Environments

Effective learning environments foster social, emotional, and academic development. Emphasis is placed on creating a culture that uses an equity lens based in evidence. Social emotional learning, culturally-relevant teaching, restorative justice practices in school discipline, and trauma-informed systems approaches will be explored. Students will consider ways to eliminate barriers across systemic, institutional, and individual levels that contribute to inequitable access to learning.

3 semester hours

EDUCATION 625

Classroom-Based Assessment

Classroom-based assessment is an essential component of teaching and learning. Students will learn how to design formative and summative assessments of learners' knowledge and skills that are aligned with educational outcomes. Students will also create and revise quality assessment rubrics and coding schemes that work with the assessments they design.

3 semester hours

EDUCATION 630

Instructional Coaching

The goal of instructional coaching, a form of job-embedded professional learning, is improvement in teaching practices that lead to better student outcomes. Students will explore theories that shape the work of coaches and a variety of coaching models. The primary tasks and activities of coaches, how the work is structured, and knowledge, skills, and dispositions that coaches need to do their jobs effectively will be examined. Students will apply what they are learning about coaching by engaging in a mini-coaching cycle of goal setting, planning, observation, and reflection.

3 semester hours

EDUCATION 632

Career Services in Colleges/Corporations

This course presents a lifespan approach to career choice. Theories, research, and employ-

Educational Leadership

ment strategies related to career choice are explored. Labor resources and information, career assessment tools, computer assisted career guidance, life roles, cultural considerations, and placement procedures are reviewed as interrelated factors to the study of career development.

3 semester hours

EDUCATION 635

Leading Professional Learning

Ongoing professional learning is a primary means for enhancing teaching practices and improving student outcomes and overall school success. Students will critically review current research on professional learning and supporting adult learners. Emphasis will be placed on designing, implementing, and evaluating long term job-embedded professional learning that supports specific teacher development needs at their schools.

3 semester hours

EDUCATION 640

Appreciative Inquiry Capstone

The Capstone course is designed for M.Ed. students to demonstrate the depth and breadth of their growth as reflective practitioners and the knowledge and skills gained through their coursework. During this course, students design and carry out a project in which they apply Appreciative Inquiry, a Participatory Action Research approach, to identify positive, strength-based organizational practices. Project topics are relevant to students' professional practice and center on the intersection of the three pillars of the M.Ed. program—Universal Design for Learning; teacher leadership; and diversity, equity, and inclusion. Prerequisite: Director Permission (Taken as a final course in the program).

6 semester hours

3 semester hours

EDUCATIONAL LEADERSHIP 611A

Organization, Administration, and Supervision of Reading and Language Arts Programs

This course focuses on the role of the Reading and Language Arts Consultant as an educational leader in schools and school districts and focuses on issues of organization, administration, and supervision of reading and language arts programs. Note: Students enrolled in this course must also concurrently enroll in EDLD 611 Administration: Organizing, and Staffing Educational Institutions. While EDLD 611 focuses on the broader issues of educational leadership in schools, EDLD 611A specifically focuses on reading and language arts programs and personnel.

1 semester hour

EDUCATIONAL LEADERSHIP 613

Contemporary Issues in Education Leadership

This course will focus upon contemporary society and changing policy issues that confront managers and leaders of educational thought throughout the 21st Century. Seminal issues such as the impact of political forces upon federal, state, and local educational policies will be considered. Labor relations will be analyzed. Empowerment of teachers will be examined.

3 semester hours

EDUCATION LEADERSHIP 613

Contemporary Issues in Education Leadership

This is an exploration of current topics and trends that impact education leadership. The course materials will explore current trends and topics utilizing journal articles, monographs, trade news outlets and social media.

3 semester hours

EDUCATION LEADERSHIP 614

Leadership & Management of School Facilities

The course is designed to provide the prospective school leader with a comprehensive understanding of the various issues associated with managing and planning for school facilities that enhance teaching and learning.

3 semester hours

EDUCATION LEADERSHIP 615

Research & Data Informed Supervision

This course is designed to increase students' knowledge, understanding, and competencies required for reading and conducting educational research. The course achieves this by reviewing key concepts related to the research problem, research hypothesis, sampling, data collection techniques, data analysis, and re-

search designs.

EDUCATIONAL LEADERSHIP 618

Public School Finance

This is a study of educational fiscal control including: budget preparation and presentation, accounting procedures, tax structures, analyses of costs, comparative data and auditing. Includes federal, state and local phases of support of educational systems. Special emphasis is given to New York and Connecticut fiscal patterns.

3 semester hours

EDUCATIONAL LEADERSHIP 619

Public School Law

This is a study of the legal basis for public education in the United States; a study of state and federal statutes providing for education. An examination is made of statutes, court decisions, and policies and practices arising out of these factors. The legal status of boards, teachers, administrators, pupils and parents is examined with special emphasis on New York and Connecticut.

3 semester hours

EDUCATIONAL LEADERSHIP 621

Evaluation of School Effectiveness

This course examines the various ways to evaluate the effectiveness of a school's performance: student achievement, faculty performance, faculty morale, provision for diverse student needs and development of student emotional growth. The course examines how data can and should affect instructional issues.

3 semester hours

EDUCATIONAL LEADERSHIP 651

Curriculum Development and Implementation

This is a study and development of models for curriculum design and implementation at all levels of schooling. Emphasis is placed on current research and practice relevant to curriculum design and the planning and monitoring of curriculum plans in educational settings. Such topics as: curriculum assumptions, goals and objectives, knowledge and content, curriculum evaluation, implementation and staff development strategies are examined.

3 semester hours

EDUCATIONAL LEADERSHIP 652

Supervision: The Evaluation and Professional Development of Educators

This is a study of concepts and strategies focusing on the evaluation of teachers and other educators for purposes of performance improvement and quality assurance. Emphasis will be placed on research findings, current

Educational Leadership

EDUCATIONAL LEADERSHIP 601

Introduction to Education Leadership

This is an investigation of concepts, research findings, and practices focusing on the development and change of educational organizations in relation to relevant goals and objectives. Emphasis is placed on such areas as leadership theory and behavior, organizational climate, human relations and communications within the organization, and change strategies. Theoretical concepts of leadership are integrated along with practical applications.

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practices, and the achievement of competency related to classroom observation and evaluation, the planning and implementation of professional development, and the creation of organizational climate and human relationships conducive to effective evaluation and professional growth of educators.

3 semester hours

EDUCATIONAL LEADERSHIP 664

Supervision of Programs & Services for Students with Exceptionalities

This course is designed to prepare school administrators with the skills to supervise and implement appropriate services for students in need of response to intervention services and/or programs for students identified as in need of special education services. An emphasis is on service delivery models, due process procedures and supervision of specialists responsible for providing services to identified students.

3 semester hours

EDUCATIONAL LEADERSHIP 680A

Urban Leadership

This course is designed to introduce current research, challenges and successful practices of leading schools in urban settings.

3 semester hours

EDUCATIONAL LEADERSHIP 681A

Internship in Educational Management

A cooperatively guided administrative experience in a school system. Pre-requisite: Completion of major portion of the requirements for the Sixth Year Professional Diploma and permission of major advisor.

3 semester hours

EDUCATIONAL LEADERSHIP 682A

Special Topics in the Management of Educational Institutions

Special department offerings including workshops, conferences, institutes focusing on new developments in the field.

1-6 semester hours

EDUCATIONAL LEADERSHIP 683

Internship for the Reading and Language Arts Consultant

This course is a cooperatively guided administrative experience in the area of literacy education for those desiring to be certified as Reading and Language Arts Consultants. The internship includes a series of practicum experiences in a variety of school settings and includes research in the area of literacy education. Students gain practical field based experience through a

range of tasks and situations characteristic of the position of the Reading and Language Arts Consultant in school settings.

6 semester hours

EDUCATIONAL LEADERSHIP 800D

Continuing Doctoral Seminar

The seminar meets periodically during the academic year and for two full weeks each summer, for three consecutive summers. It provides opportunities for students to work with scholars and leaders from a variety of disciplines to broaden perspectives on educational leadership and to develop an intellectual style for dealing with educational problems.

6 semester hours per year

EDUCATIONAL LEADERSHIP 801A

Educational Program Development

Emerging trends, concepts and practices in the planning, design, and implementation of education programs intended to meet the individual and group needs of learners in a changing society are reinvestigated. Emphasis is placed on the roles and responsibilities of leaders in such processes as school/community educational goal setting, needs analysis, systematic program design, supervision and staff development. Students will focus on the application of new knowledge to the investigation and solution of program development in the field.

6 semester hours

EDUCATIONAL LEADERSHIP 801B

CURRICULA THEORY AND PROGRAM DEVELOPMENT

This course provides an introduction to conceptions of curriculum and their effects on pedagogy from a historical perspective, with particular emphasis on discerning and interpreting how social, cultural, and political circumstances that shape educational practices. The course includes several projects focusing on the application of curriculum design principles and related instructional systems development. Emphasis is placed upon a historical overview of curricula theory and the current research and practice relevant to curriculum design, planning and monitoring in educational settings. Topics to be examined include the following: curriculum assumptions, understanding by design, concept-based curriculum and instruction, Curriculum for the 21st Century, alignment with the Common Core Instructional Standards, goals and objectives, knowledge and content standards, needs assessment and curriculum evaluation, the curriculum cycle, curriculum implementa-

tion strategies, and professional development strategies

6 semester hours

EDUCATIONAL LEADERSHIP 804A

Constitutional, Legal, and Political Issues

Confronting Educational Leaders

Legal questions relating to personnel, students, community, religion, finance, school property, teacher organizations, equality of opportunity and other legal and political issues with which the educational leader must be familiar in order to be effective in decision-making and organizational development are investigated. Emphasis is placed on "landmark" judicial decisions, recent statutory developments, constitutional background. Students will read, analyze, and interpret significant Supreme Court decisions regarding educational matters as well as pertinent lower federal and state court decisions. The principal of "non judicial" remedies will be explored and the appeals process will be examined in detail.

6 semester hours

EDUCATIONAL LEADERSHIP 804B

Constitutional Law

Legal questions relating to personnel, students, community, religion, finance, school property, teacher organizations, equality of opportunity and other legal and political issues with which the educational leader must be familiar in order to be effective in decision-making and organizational development are investigated. Emphasis is placed on landmark judicial decisions, recent statutory developments, and constitutional background. Students will read, analyze, and interpret significant Supreme Court decisions regarding educational matters as well as pertinent lower federal and state court decisions. The principal of non-judicial remedies will be explored and the appeals process will be examined in detail.

6 semester hours

EDUCATIONAL LEADERSHIP 806 A & B

Quantitative Analysis and Evaluation Strategies

This course considers current techniques for designing, implementing and analyzing projects in education and typical models for facilitating decision-making. The elements of personnel and program assessment within the contemporary educational system are included. Strategies focusing upon experiential learning and community contact are featured, and the student will be exposed to collection and analysis of real data and related computer

Educational Leadership

simulation activities. Statistical and evaluative investigations are emphasized which are both fundamental and sufficiently sophisticated for advanced decision-making and leadership. This course is required.

6 semester hours

EDUCATIONAL LEADERSHIP 807A

Management of Educational Institutions (K-12)

Participants in this course will investigate the planning and finance functions relative to the management of educational institutions. The planning component, the relationship between planning and institutional decision-making, and problems of implementing planning activities in educational contexts are considered. Finance is addressed through the treatment of budget preparation and presentation, accounting procedures, tax structures, and the role of local, state, and federal governments in support of educational system.

6 semester hours

EDUCATIONAL LEADERSHIP 807B

Leadership Theories and Organization Management

This course investigates concepts, research findings, and practices focusing on the development and change of educational organizations in relation to relevant goals and objectives. Students investigate planning, financing and management of their own educational institution including budgets, accounting procedures, tax structures, and the role of local, state, and federal government. Emphasis is placed on leadership theories, organizational climate, human relations, and communication within organizations. The course covers a historical overview of organization and leadership theories and the culminating project is defining and defending a philosophy of leadership.

6 semester hours

EDUCATIONAL LEADERSHIP 808A

Human Relations, Communication, and Decision Making

This course will provide educational leaders with the necessary skills and knowledge to maximize the human resources within an institution. It will develop in participant's increased personal awareness, greater sensitivity to others, effective communications and appropriate strategies for change and decision making.

6 semester hours

EDUCATIONAL LEADERSHIP 808B

Program Evaluation and Human Relations

The structure of this seminar is three-fold. The impetuses, purposes, issues, and controversies

surrounding human relations, assessment, and program evaluation with emphasis on organization development, teaching, and learning. Program evaluation techniques including multiple means of assessment will be discussed and considered. Concepts such as reliability, validity, credibility, and authenticity will be explored as well as summative and formative data collection and analysis strategies. The program evaluation approach will be applied to authentic experiences and scenarios that focus on assessing and evaluating institutions, programs, teaching, and learning. Research-based factors that are associated with effective schools and how to use various sources of data to evaluate and assess educational organizations and programs is also emphasized. The process of strategic planning as a vehicle to improve school effectiveness, the Connecticut Standards for School Leaders, and Common Core Standards all provide a framework for understanding the role and responsibilities of school leaders for school improvement.

6 semester hours

EDUCATIONAL LEADERSHIP 811

Intro to Research

Introduction to Research is an overview course in research methodology and evaluation techniques relevant to the conduct of qualitative, quantitative, action, and mixed methods studies of leadership, curriculum, teaching, and learning. Fundamentals of, quantitative, qualitative, action and mixed methods research will be introduced from five prominent dimensions: leadership, curricula, program evaluation, teaching, and assessment.

3 semester hours

EDUCATIONAL LEADERSHIP 810

Computer Application in Educational Leadership

This course covers creation of learning objects, including text, raster/vector graphics, animation, slideshows, conferencing components, and video for instructional Webs. Use of digital image capture equipment, including digital cameras, camcorders, and scanners. Also covers basic HTML, PDF and OCR. Final project will be integration of elements into an instructional Web.

6 semester hours

EDUCATIONAL LEADERSHIP 812

Quantitative Research

One of the greatest challenges faced by school leaders is harnessing the power of data to drive school improvement. To this end, in the present climate of rapidly emerging research findings and data-driven decision-making, today's

leaders must be able to perform, analyze, and critically interpret statistics. Hence, this course is designed to prepare doctoral students to perform dissertation research by giving them fundamental understanding of the quantitative research methodology. Overall, this course will provide students with: (a) the fundamental of descriptive and inferential statistics necessary to manipulate quantitative information,(b) the necessary frameworks to describe, interpret, and critique the components of various quantitative research studies in education, and (c)the conceptual understanding of the experimental and non-experimental research methodologies.

3 semester hours

EDUCATIONAL LEADERSHIP 813

Literature Review

Literature review is designed to be taken in the summer of the first year after students have taken introductory research, quantitative research methods, and two six credit doctoral modules in the program. Conducting the literature review helps refine the student's proposal and prepares for writing the Human Subject approval application.

3 semester hours

EDUCATIONAL LEADERSHIP 814

Qualitative Research

Qualitative research and evaluative Strategies introduces students to theoretical, paradigmatic and methodological research perspectives associated with the qualitative tradition. Case studies, grounded theory, ethnographic, and narrative approaches will be presented in this class paying particular attention to interpretive, critical, and participatory research techniques, methodologies and methods. Qualitative evaluation techniques used in program evaluations will be emphasized. EDUCATIONAL LEADERSHIP 814 introduces students to practical research techniques including the development of semi structured and open ended interview questions, how to conduct, record and analyze interviews, and the use of field notes when collecting observation data. Emphasis will be placed on understanding the ramifications of purposeful sampling, forms of credibility, the role of the researcher, and ethical dimensions associated with qualitative inquiry.

3 semester hours

EDUCATIONAL LEADERSHIP 815

Mixed Methods

Mixed method research introduces students to mixed-method research in the social sciences. Students should have some familiarity with

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research (quantitative and/or qualitative) and the epistemological and ontological underpinnings of the two methods as well as a basic understanding of their educational or social science research topic. This course completes the process of the proposal preparation expanding methodological and procedural techniques used in dissertation process. Specific objectives for this course include: (a) the history and language of mixed method research in education/social sciences; (b) summarization of current issues related to the paradigm wars and where mixed-methods research currently fits into education/social sciences; (c) advance understanding of research issued in educational/social sciences through discussions about paradigmatic compatibility, the current standing of mixed-methods in academic and political field, and the process and design of mixed-method studies;(d)proposal writing strategies including for mixed-methods research;(e)data sampling, collection and analysis strategies including for mixed method research;(f) reflections about the role of the researcher and their worldview in a mixed methods design. Although mixed-methods is an emerging dialog in education and social sciences, there are variety of sources available including keynote speeches, edited books, journal articles, editorials and seminal works from the leaders in the field cited in prominent mixed-method research publications. Supplemental articles and chapters will be provided depending on the students' level of interest and needs. Students preparing their dissertation will have these available these resources when expanding their methodology and procedures sections of their study.

3 semester hours

EDUCATIONAL LEADERSHIP 816

Action Research Project

The Action Research seminar is the second year summer project designed to help students understand how to conduct, evaluate and disseminate research. This culminating research projects starts after students have completed introduction (EDUCATIONAL LEADERSHIP 811), quantitative (EDUCATIONAL LEADERSHIP 812) qualitative (EDUCATIONAL LEADERSHIP 814) and mixed method research (EDUCATIONAL LEADERSHIP 815) in the second year of program. Conducting a collaborative action research projects helps refine practical research skills, presentation techniques, and the ability to publish.

3 semester hours (3 Credits-Repeatable up to 2X)

Postsecondary Teaching Experience

EDUCATIONAL LEADERSHIP 817

Postsecondary Teaching

Post-secondary teaching provides students the opportunity to determine if working in higher education is preferred. This class is to be taken as a final class in the program course sequence. Repeatable up to 8 credits.

2 semester hours

(2 Credits Repeatable up to 4X)

EDUCATIONAL LEADERSHIP 845A

Dissertation Preparation Seminar

During the third year of the program, students participate in seminars which focus on the selection and development of a dissertation proposal. Students are ordinarily expected to complete the major portion of their work on the dissertation proposal prior to the conclusion of the formal part of the program. This course is required.

3 semester hours each term (Fall & Spring), 6 semester hours final summer

EDUCATIONAL LEADERSHIP 845B

Comprehensive Examination Preparation

During the third year of the program, students participate in this seminar in preparation for their 30 day, 3 question 45+ page comprehensive examination. Students should only take EDUCATIONAL LEADERSHIP 845 after they have completed all of their courses or with the prior approval of their Chair.

3 semester hours

EDUCATIONAL LEADERSHIP 850A

Dissertation Research and Advisement

Individual research and advisement relative to a student's dissertation topic is the "sine qua non" of this course. Doctoral candidates are required to register for Education Management 850 continuously until their dissertations have received final approval. Prerequisite: Successful completion of Comprehensive Examination.

0 semester hours

EDUCATIONAL LEADERSHIP 850B

Continuous Dissertation

Individual research and advisement relative to a student's dissertation topic is the sine qua non of this course. Doctoral candidates are required to register for Continuous Dissertation 850 every semester (Fall, Spring and Summer) until their dissertations have received final approval. Prerequisite: Successful completion of EDUCATIONAL LEADERSHIP 845 Dissertation Proposal and EDUCATIONAL LEADERSHIP 846 Comprehensive Examination.

0 semester hours

EDUCATIONAL LEADERSHIP 864

Special Education for Administrators Supervision of Programs & Services for Students with Exceptionalities.

This course is designed to prepare school administrators with the skills to supervise and implement appropriate services for students in need of response to intervention services and/or programs for students identified as in need of special education services. An emphasis is on service delivery models, due process procedures and supervision of specialists responsible for providing services to identified students.

3 semester hours

EDUCATIONAL LEADERSHIP 881A

Administrative Internship + CAT Exam

A cooperatively guided administrative experience in a school system. Pre-requisite: Completion of major portion of the requirements for the Sixth Year Professional Diploma and permission of major advisor.

3 semester hours + CAT Exam

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ELECTRICAL ENGINEERING 403

RF VLSI

The course covers fundamental concepts of RF circuit design. Students will learn circuit level design of high speed analog/RF circuits. Specific topics include impact of scaling and noise in high-speed communication circuits, low noise amplifiers, mixers, power amplifiers and frequency synthesizers.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 404

Digital VLSI

The objective of this course is to teach students the CMOS transistor design in VLSI circuits. (CMOS stands for complementary metal oxide semiconductor.) Supported by CAD tools, students will learn gate level design, IC design, fabrication, and layout of digital CMOS integrated circuits. With these skills, students will also be able to interact with integrated circuit fabrication process engineers after completing this course.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 405

Random Signal Processing

Topics in the course Statistics for Engineers and Random Signal Processing are the same. However, Random Signal Processing is a better title, since it pertains to modern applications of

Electrical Engineering

statistics for Engineers in the real world.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 406

Soft Computing I

Modeling and solving engineering problems using computational methods. Topics include exact (provable) methods (linear and convex programming) and fast methods (heuristic search, genetic algorithm, neural networks, etc.).

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 407

Fuzzy Logic Systems

A study of fuzzy set theory and applications. Topics include (a) fundamental concepts of fuzzy logic, (b) fuzzy sets, (c) fuzzy model identification, (d) neuro-fuzzy systems, (e) fuzzy logic in control engineering, and (f) fuzzy logic in pattern recognition and artificial intelligence.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 409

Data Acq & Virtual Instr Lab

This is an introductory lab for the real-time data acquisition and instrument controls. The purpose of this course is to introduce students to the field of data communication between the computers and instruments with experiments. These experiments cover the LabView programming for the interface to communicate with different instruments or data acquisition boards through GPIB, RS232, and USB cables. After the students complete this course, they are expected to be able to set up their own systems for different testing and controls.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 410 (ELEG 410/BMEG 410)

Bio Sensors

This course will provide an interview of bio-sensors, including their use in Pharmaceutical research, diagnostic testing, and policing the environment. Topics include the sensitivity, resolution, selectivity, dynamic range, and noise of biosensors. Other topics covered include transducer phenomenology, biosensor structure, and sensor performance.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 411

PLC Solutions in Industrial Applications

This course builds on PLC's (ELEG 464) by using sensors (both thermal sensors, motion sensors, and camera input) to control the automation process; topics in servo motors, variable frequency drives, and HMI (human machine interaction) and touch screens are

also introduced both in theory and in a lab setting. Prerequisite: Electrical Engineering 464.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 412

Bioelectronics

Discipline of biomedical Engineering has emerged due to integration of engineering principles and technology into medicine. This course is intended for engineers and engineering students interested in pursuing careers in biomedical engineering and health related field. This course will first introduction Applications of electrical engineering principles to biology, medicine, behavior, or health will be identified during first half of the semester. Second half of the course will focus on research, design, development and application of biosensors and Bioelectronics.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 413 (ELEG 413/CPSC 413)

Bioinformatics

The course covers algorithmic aspects of modern DNA and protein analysis. Topics include: (i) Reviews of DNA, RNA and Proteins, (ii) Genome rearrangements, (iii) Sequence Alignment and fast algorithms (BLAST), (iv) Genome expressions and DNA-microarray, (v) Phylogenetic trees, (vi) Protein docking and drug discovery, etc.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 414

Laser Applications

Course studies (i) fundamentals of laser operation and the types of laser operation, (ii) laser applications in spectroscopy and photochemistry, (iii) laser applications in dentistry and eye surgery (LASIK), and (iv) laser applications in bar code readers and welding/cutting.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 415

Fiber Optics

Communication via light waves over fiber optics cables. Analysis of light emission and light detection. Absorption loss. Optical devices, connectors, splices and Local Area Networks (LANs). Pre-requisite: Physics 112 or equivalent.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 416

Fiber Optics Lab

Hands on experience with fiber optic hardware. Fiber properties, sources, detectors, splices, connectors. Design and test fiber optic transmission and receiver circuits for both

analog and digital transmission. Pre-requisite: Electrical Engineering 415.

3 semester hours

ELECTRICAL ENGINEERING 417

Modern Electronics

Application of diodes, bipolar transistors (BJT) and field effect transistors (FET) to signal amplification and switching. Computer Simulation.

3 semester hours

ELECTRICAL ENGINEERING 419

Fuel Cells

3 semester hours

ELECTRICAL ENGINEERING 428 (ELEG 428/BMEG 428)

Modern Wireless Communications

Evolution of Mobile Radio Communications to cell phones and personal communications: 2nd and 3rd and 4th generation. Concepts include cell fundamentals, path loss, fading, ghosts, modulation techniques, equalization, speech coding and networks.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 430

Satellite/Wireless communication Systems

Detailing concepts and calculations from the entire field is enough to permit the kinds of analysis needed for major systems planning decisions. This course covers channel capacity, picture quality, signal to noise ratio, bit error rate, earth station antenna size and offers new materials on orbital mechanics and geometry. Pre-requisite: Electrical Engineering 441 or equivalent.

3 semester hours

ELECTRICAL ENGINEERING 431

Field Theory

The course covers fundamental concepts of RF circuit design. Students will learn circuit level design of high speed analog/RF circuits. Specific topics include impact of scaling and noise in high-speed communication circuits, low noise amplifiers, mixers, power amplifiers and frequency synthesizers.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 434

Power System Protection and Relaying

This course introduces students to the basic concepts and fundamentals of the electric power system protection and relaying. It teaches the methodology to model the different electric component of the power system such as bus bars, generators, motors, transmission lines, and transformers. Also, it analyzes the different types of symmetrical and asymmetrical short circuit faults along with the different

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protection schemes used to protect the power system component. It presents the philosophy of protecting the power systems and discusses the fundamental relay operating principles and characteristics. It explores the different types of relays and measuring instruments. Finally, it introduces practical techniques/applications and relaying systems used to protect real-life transmission and distribution systems/components.

3 semester hours

ELECTRICAL ENGINEERING 435

Electric Machines

The course introduces the laws of electricity and magnetism and principles of transformers applicable to electric machine construction. Machines studied include DC motors, AC induction motors, synchronous motors, stepper motors, relays, and motor/generators. Both single phase and 3-phase motors are analyzed for their efficiency, speed, and mechanical stability. The state of the art VFD (Variable frequency drive) is shown to be the best way to improve efficiency and produce the maximum torque and speed control for any given motor.

3 semester hours

ELECTRICAL ENGINEERING 437

Microwaves

Passive and Active elements for the generation, modulation, amplification and reception of microwaves. Radar and other microwaves systems. Pre-requisite: Field Theory.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 438

Power Analysis

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 439

Radar Thry & Sim

Radar Fundamentals, Radar Cross section, Types of Radars, Radar Detection, Waveform Analysis, SNR, Compression and Wave Propagation. Target Indicator and Tracking. The course will include extensive use of MATLAB for programming and simulation.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 440

Distribution Power System Design

A comprehensive study of modeling of the distribution of power system components and planning, including load characteristics, application of power transformers, design of transmission lines, distribution sub-stations, primary systems and secondary systems, voltage drop and power loss calculations, application of capacitors, harmonics on distribution

systems, voltage regulation, fault calculation and protection.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 441

RF Communications

Spectral analysis; modulation and demodulation system analysis, including AM, FM, pulse modulation and transmission of digital information. Signal design and system considerations. Pre-requisite: Electrical Engineering 234.

3 semester hours

ELECTRICAL ENGINEERING 442

Digital Communications

Detection of noise in thermal noise. Digital sequences. Optimal filtering and statistical decision theory. Optimum receiver design criteria. Performance, configuration and trade-offs. Pre-requisite: Electrical Engineering 441.

3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 443

Digital Signal Proc I

The FFT Spectral Analysis, Filtering in the presence of noise. Correlation. Introduction to stochastic signal processing. Computer projects. Pre-requisite: Electrical Engineering 234 or equivalent.

3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 444

Power Electronics

Application of power diodes and power transistors in rectifier arrangements and voltage regulators. Properties and application in power converters, inverters and motor drives. Pre-requisite: Electrical Engineering 348.

3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 445

DC/AC Motor Drives

Application to control speed and efficiency of motors using conventional thyristors control as well as modern variable frequency drives.

3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 446 (ELEG 446)

MEMS (Micro-Electro-Mechanical Systems)

MEMS (Microelectromechanical systems) refers to devices and system with very small size in the range of microns. It is one of the most important high technologies developed in 20th century. This course covers the fundamentals of MEMS. It includes the introduction to MEMS, basic microfabrication techniques, MEMS materials and their properties, MEMS device design and simulation, working principle analysis, MEMS device fabrication sequence,

MEMS packaging and assembly, signal testing, MEMS applications (inertial MEMS, MOEMS, BioMEMS, RFMEMS, etc.).

3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 447

Semiconductors

Crystal fabrication: MBE, MOCVD, LEC, Bridge Mann. Study material and electronic properties of single crystal Si, poly, a-Si, GaAs, GaN, SiC, Ge and II-VI compounds. Transport properties: Hall Peltier, resistivity, mobility. Analysis of capacitance and I/V data for pn, pin, schottky and hetero-junction devices. Pre-requisite: Mathematics 110.

3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 448

Microelectronic Fabrication

This class covers basic microfabrication processes for semiconductor and VLSI fabrication, including photolithography, plasma and reactive ion etching, ion implantation, diffusion, oxidation, evaporation, vapor phase epitaxial growth, sputtering, and CVD. Advanced processing topics such as next generation lithography, MBE, and metal organic CVD are also introduced. The physics and chemistry of each process are introduced along with descriptions of the equipment used for the manufacture of integrated circuits. The integration of micro-fabrication process into CMOS, bipolar, and MEMS technologies are also discussed. The purpose of this course is to provide students with technical background and knowledge in silicon microelectronic fabrication process. Upon finishing this course, students will be familiar with the basic semiconductor and VLSI microfabrication processes.

3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 449

Wireless Sensor Networks

Course studies wireless sensor nodes, which are small, low cost, low power, multifunctional sensor nodes with the capability of sensing certain physical properties, local data processing, and wireless communications. Focus will be on real time applications in software and hardware. The architecture of networks will also be utilized and perfected.

3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 450

Communications Lab

Hands-on experience with digital and analog communication equipment, AM, FM and digital modulation techniques. Design and test of optimal configuration. Measurement of perfor-

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mance parameters in the presence of thermal noise. Pre-requisite: Electrical engineering 441.
3 semester hours

ELECTRICAL ENGINEERING 451

Introduction to Nanotechnology

Nanotechnology is the science and engineering involved in the design, synthesis, characterization and application of materials and devices with the size in nanometer (10-9m) scale. As a newly emerged exciting high-technology, it has attracted intensive interest and heavy investments around the world. Nanotechnology is a general-purpose technology which will have significant impact on almost all industries and all areas of society. It can offer better built, longer lasting, cleanser, safer and smarter products for home, communications, medicine, transportation, agriculture and many other fields. This course will cover basic concepts in nanoscience and nanotechnology.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 452

Multimedia Processing

Using state-of-the-art software and hardware, this course shows how to process multi-media signals (for example speech, MPEG, HDTV, video, images). The course teaches how to represent these signals mathematically, how to compress the data in these signals to fit into a limited workspace, and how to make the processing networks and the signals themselves secure against hackers. Part of the course involves a research project.
3 semester hours

ELECTRICAL ENGINEERING 453

Pattern Recognition

Operation and Design of systems that recognize patterns in data, based primarily on statistical and neural network approaches. Topics include Bayesian decision theory, Parametric likelihood estimation, Nonparametric techniques, Linear discriminant functions and Neural Networks.

ELECTRICAL ENGINEERING 454

Introduction to Audio Signal Processing

To introduce the fundamentals of speech processing and related applications. Course covers speech enhancement, speech coding, and speech recognition.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 455

Microwave Lab

Hands on experience with basic microwave coaxial and wave guide components in various circuit configurations. Measurement of power,

wavelength, VSWR, attenuation, directional coupling, impedance. Use of the smith chart. Pre-requisite: Electrical Engineering 437.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 456

Adaptive Signal Processing

This course introduces students to the field of adaptive signal processing as well as several practical aspects of adaptive systems. This course provides an in-depth analysis of various adaptation algorithms such as least mean square adaptive filters, recursive least squares algorithms, and Kalman filters etc. The subject learning is enhanced through experimentation of adaption techniques using Matlab and/or Labview projects centered on applications such as adaptive noise/interference cancellation, signal estimation/ detection, and system identification etc.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 458 (ELEG 458/CPEG 458)

Analog VLSI

Modeling, design and analysis of analog VLSI circuits. CMOS processing and layout, current mirrors, Opamp, comparators, S/H voltage references, switched-capacitor circuits, data converters, filters and PLLs. Students design analog VLSI layouts, extract the netlists and simulate the circuit behavior. Transistors sizing will also be discussed. EDA tools PSPICE, Mentors Graphics are used.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 459

Audio Processing Lab

Introduction to TMS320C55x Digital signal Processor, Audio Signal Processing, Basic Principles of Audio Coding, Speech Enhancement Techniques, Quantization of Audio signals, Calculating LPC coefficient using C55x Intrinsic, Matlab Implementations of noise Reduction (NR), Mixed C55x Assembly and Intrinsic Implementations of Voice Activity Detection (VAD), Combining AEC with NR, Voice over Internet Protocol Applications, Overview of CELP Vocoders.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 460

Controls

Analysis of steady state and transient response of control systems. Laplace transforms methods. Transfer functions. Stability criteria. Nyquist, Bode and root locus methods. System stabilization. System Design.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 461

Controls Lab

Laboratory study of feedback control systems with experiments analyzing different types of plants, transducers and control techniques; emphasis on real-time computer control.

3 lab hours; 3 semester hours

ELECTRICAL ENGINEERING 462

Advanced Controls

This is a graduate level course and aims to introduce the analysis of nonlinear system. The course will cover: the state space description of nonlinear system; the phase portrait analysis of the second order system; stability analysis of the nonlinear system based on linearization method; the Lyapunov stability theory, etc.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 463

Industrial Controls & Instrumentation

This course covers the basics of Industrial Controls, including but not limited to relay control, ladders, counters, timers, switches, and all electrical components necessary to program the control of a large machine.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 464

PLC's (Programmable Logic Controls)

This course will start with the basics of Boolean Algebra; it will cite the differences between PLC control and relay control and full automation of major machines and appliances; the differences in these controls will show how hard relay control is to implement and how flexible PLC control actually is; many different math functions will be analyzed and implemented in the theoretical construction of fully functioning PLC.

3 lecture hours, 3 semester hours

ELECTRICAL ENGINEERING 465

Introduction to Robotics

Basic robotics including: position and velocity sensing, actuators, control theory, robot coordinate systems, robot kinematics, differential motions, path control, dynamics, and force control. Robot sensing, simulation of manipulators, automation, and robot programming languages are also investigated. Prerequisite: Computer Science 102, Match 214 or Math 314, or permission of instructor.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 467

Introduction to Mechatronics

This course covers development of Mechatronics theory and application to intelligent systems

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dependent upon the integrated disciplines of mechanical, electronic, computer and software engineering. The course examines the following: mechatronics system design, sensors and transducers, actuating devices, signals systems and controls, real-time interfacing, hardware components and software with applications in mechatronics.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 479

Solar Energy and Solar Cells

This course offers a review of renew-able energy (solar, winds, and tides) versus bio-energy (coal, oil, natural gas). The concept of light as electromagnetic radiation and pure energy as well as the concepts of converting sunlight into thermal energy will be discussed. Students will learn the semiconductor and electronic properties of solar cells, used to convert light into electricity. Secondary solar energy sources include solar Hydrogen and concentrator technology.

3 semester hours

ELECTRICAL ENGINEERING 480

Digital Electronics

3 semester hours

ELECTRICAL ENGINEERING 481

Analog Electronics Lab

With a set of 6 experiments and simulating them using P-Spice, the goal of this course is to teach the concepts from the theory of analog electronics. The user must have solid understanding of the basic electronics and circuit theory aka Network Analysis. Pre-requisite: Electrical Engineering 348, 234 or equivalents.

3 semester hours

ELECTRICAL ENGINEERING 482

Analog Integrated Circuit Design

Do a complete analysis of the 741 op-amp, including bandwidth, gain analysis, slew rate, power efficiency and I/O impedances. Analyze ROM, Ram, TTL, ECL, CMOS and more modern logic structures including Fanout, noise margin, latching, contention, logic and delay response. Pre-requisite: Electrical Engineering 348.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 483 (ELEG 483/MEEG 483)

Digital Integrated Circuit Design

Several integrated circuit architectures are analyzed at the transmitter level to find key parameters by hand analysis as well as computer simulation: rise time, fall time, noise margins, logic state, hysteresis/memory, fanout, and power dissipation. Analysis includes an analy-

sis of the major logic families: TTL, CMOS, NMOS, ECL, PECL, differential logic.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 490

Sustainable Energy

This is a graduate level course and aims to introduce the alternative energy technologies in photovoltaic cells (PV) and fuel cells. It will cover: the physics, energy conversion efficiency, and challenges in PV cells, the principles, the stack and system design in fuel cells.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 492

Sustainable Energy Lab

3 semester hours

ELECTRICAL ENGINEERING 500

Graduate Co-op/Internship in Electrical Engineering

By arrangement.

1-3 semester hours

ELECTRICAL ENGINEERING 503

Electronic Cooling

3 semester hours

ELECTRICAL ENGINEERING 510

Medical Machines

Electrical safety is studied by full analysis of grounding and modeling of the human body under various electric shock conditions. The ECG machine (for measuring heart performance) is analyzed as both an analog and a digital machine, with emphasis on cleaning up signal problems and extending the analysis of the data recorded. Other instruments that are analyzed include the blood sugar tester, the hospital thermistor, the lung pressure machine, the anesthesia vaporizer, the pulse oximeter and various cardiac output devices. Discussion made about the minimum alveolar concentration (MAC) as it applies to anesthesia. Discussion is also made about modern hearing aids and advances in eye replacement via electrical means. Pre-requisite: Electrical Engineering 348, 234 or equivalent.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 511

Medical Machines - Signal Processing

Students learn to obtain, process, and interpret data from various Medical Machines (e.g. EEG, ECG, EMG, pulse oximeter, spirometer, blood pressure, skin resistance). Students analyze data via the computer package MATLAB.

3 semester hours

ELECTRICAL ENGINEERING 513

Biomedical Image Processing (Elective)

The content of this course include the fundamentals of Digital Image Processing and its applications in biomedical field. Sampling and Quantization of signals are mentioned in order to introduce the digital images, some basic relationship between pixels are mentioned. Introduction to Fourier Transform, Discrete Fourier Transform and Fast Fourier Transformed are explained. MATLAB programming with Image Processing Toolbox will be introduced to empathize and rigid the understanding of students. Others important fundamental theorems, e.g., Image Enhancement, Image Segmentation, Representation and Description are also mentioned. Students are required to implement some program using theorems learnt in classes.

3 semester hours

ELECTRICAL ENGINEERING 515

Fiber Optic Networks

This course focuses on architectures, design and control of multi-wavelength optical communication networks. This includes OSI, TCP/IP, and MPLS layers. It also includes a study of WDM network elements and components. Physical and link layers will be covered to understand the advantages and limitations of optical transmission technology, including SONET, CFP, Gigabit Ethernet, and packet switching.

3 semester hours

ELECTRICAL ENGINEERING 542

Advanced DSP (digital signal processing)

(1)review briefly the concepts of DSP (E443), including digital filter design and windowing (2) Carry on with new topics in Adaptive Filters, Wiener Filters, Kalman filters, power spectrum and related topics, statistical signal processing, and stochastic processes.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 543 (ELEG 543/BMEG 543)

Digital Signal Processing Lab

Centered on a set of experiments for the TIC6713 DSP Kit, the goal of this course is to teach how to program the C6713 DSP Chip using visual C++ and MATLAB and illustrate concepts from theory of digital signal processing. The user must have solid understanding of DSP algorithms as well as an appreciation of basic computer architecture concepts. Pre-requisite: Electrical Engineering 443 or equivalent.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 544

Wavelets and Filter Banks

This course is offered to provide students

Electrical Engineering

with the basic understanding of the wavelet theory along with multi-resolution signal processing tools, which can be employed effectively to solve practical signal processing and analysis problems. The first half of the course introduces wavelet transforms from an engineering point of view. The topics covered include short time Fourier transform, continuous wavelet transform, and discrete wavelet transform and filter banks. The second half of the course presents a number of interesting applications of wavelets based advanced signal processing techniques such as filter banks, multi-rate signal processing, wavelet packets and lifting algorithms in areas of image compression, signal de-noising, signal estimation, signal enhancements, and transient detection etc. Prerequisites: Basic Digital Signal Processing Course.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 546 (ELEG 546/MEEG 546)

Biomedical and Biometric Signal Processing

Students learn applications of image processing and signal processing towards biomedical images and bio-signals.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 547

Bio MEMS

BioMEMS is the application of MEMS (Microelectromechanical Systems) technology in the fields of biomedical and health sciences. Due to their small size, BioMEMS have the advantages of low weight, low cost, quick response, high throughput, high efficiency, requiring much less sample. Reagent and easy Integration. BioMEMS found broad applications in disease diagnosis, prevention and treatment. Various BioMEMS products have been developed, such as microfluidic devices, neural interface devices, uTAS, lab-on-a-chip, DNA chips, micro drug delivery system, microsurgical tools, bio-sensors. This course introduces to students the fundamentals of BioMEMS technology, typical bioMEMS devices and their applications.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 548 (ELEG 548/CPEG 548)

Low Power VLSI Circuit Design

With the rapid development of mobile computing, low power VLSI design has become a very important issue in the VLSI industry. A variety of low-power design methods are employed to reduce power dissipation of VLSI chips. This course is designed to cover low-power design methodologies at various design levels (from system level to transistor level).

The basic low-power design strategies will be introduced in the class. Students will use the learned knowledge to design low-power VLSI circuits. Upon completion of this course, students will be able to analyze the power consumption of VLSI circuits, and design low-power VLSI circuits using various strategies at different design levels. The major target is to design VLSI chips used for battery-powered systems and high-performance circuits not exceeding power limits.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 549

VLSI Testing

As VLSI continues to grow in its complexity, VLSI testing and design-for-testability are becoming more and more important issues. This course will cover VLSI testing techniques such as VLSI fault modeling (stuck-at-fault), automatic test generation, memory testing, design for testability (DFT), etc. VLSI scan testing and built-in self-test (BIST) will also be covered. Student will learn various VLSI testing strategies and how to design a testable VLSI circuit.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 550

VLSI: Digital System Design

This course will provide students with an in-depth understanding of the basic design methodologies of modern digital VLSI systems. Various perspectives of VLSI systems will be discussed, such as MOS transistor device characteristics, interconnect, time and power, clock distribution, packaging and I/O issues, VHDL system design and logic synthesis. Upon completing this course, students will have a comprehensive understanding about digital VLSI system design.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 559

Adv Digital Signal Proc Lab

Lecture will cover background material pertinent to lab, in these areas: The acoustics and acoustic analysis of audio/speech. The physiology of audio/speech production. Sentence-level phenomena. The perception of audio/speech. Audio/Speech disorders. Echo Cancellation. Prerequisite: Electrical Engineering 543.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 561

Instrumental Analysis Nanomaterials

The course will give an overview on several important analytical tools for nano materials characterization. Mechanical, electrical and electronic and biological property testing of

the nano materials such as carbon nanotubes, metal nanoparticles, quantum dots, nanowires conformable nanoelectronics materials, polymer nanoparticles and biomedical nanomaterials will be discussed. Process and product evaluation by physical, chemical and microscopic methods for materials in nano-regime will be highlighted. Modern materials science depends on the use of a battery of analytical methods carried normally in specialized laboratories. This course explains the fundamental principles associated with various methods and familiarize the students with them, their range of applicability and reliability especially when materials are of nanoscopic dimension.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 562 (ELEG 5623/MEEG 562)

Nanofabrication with Soft Materials

This is an advanced level graduate course focusing on fabrication of soft materials. Nanofabrication processes and nanosystem products will be discussed. Fundamentals associated with chips fabrications and linking them toward soft materials assembly will be detailed. Emerging nanotechnology based methods for soft and green electronics, mechanical parts, MEMS, PCBs will be covered. Gene chip, label free sensory assay using micro and nano-fluidics will be discussed. Transfer printing, DNA-protein interactions using the chip and several nano-scale assemblies for soft materials fabrication will be discussed.

3 semester credits

ELECTRICAL ENGINEERING 573

Magneto Bio-Engineering

Magneto-Bioengineering is a fast-developing field of research , its practical and environmental aspects being a topic of ever-increasing number of applications encompassing the field of biomedical engineering including but not limited to MRI) magnetic Resonance Imaging), magnetic therapy, neural stimulation, magnetic field treatment for nonunion (fractures that fail to heal) and so on. At the same time, physically, the biological effects of weak magnetic fields or Extremely Low Frequency (ELF) magnetic fields are still regarded as a paradox. This course deals with such issues and fills in the theoretical gap in biomedical engineering. It reviews and analyzes the experimental evidence that yields useful insights into the primary physical processes of magneto-reception and the frequency and amplitude spectra of the action of weak magnetic fields in living system and hence the course addresses important issues in biomedical engineering. Also,

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the course reviews the available hypothetical mechanisms for that action as applicable to the field of biomedical engineering. Besides this the presence of magnetic crystals in certain species of prokaryotes as well as in birds (for migration) and in humans is still under active investigation and is also covered in this course as a possible way of exploiting such information for application in biomedical engineering.
3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 579

Magneto Bio-Engineering

Over the past few decades rapid developments in genomic and molecular research and development in information technology have combined to produce a tremendous amount of information related to molecular bioengineering. This course focuses on designing and development of algorithms for biological problems. String, Tree and Sequencing algorithms are studied in this course to solve biological problems. Student will work with popular string based bioinformatics algorithms not only to understand algorithms design methodologies but also to identify the potential weaknesses in traditional bioinformatics algorithms. Labs are workshops are integral part of the course. Practical exercises using both bioinformatics software and simple Java programs will help students understand how bioinformatics algorithms really work. The course is aimed both at biomedical engineering and computer science students. Though no prior experience in Java is required, students are expected to have mathematics and some programming background. During the course students are expected to attend workshops and labs in addition to that they are expected to spend few hours weekly in computer lab to solve problems and learn required programming skills. The class discussion will focus on solving computational problems, such as Mappings DNA, Sequencing DNA, Comparing sequences, Predicting genes, Finding Signals, Identifying proteins, etc.

3 lecture hours; 3 semester hours

ELECTRICAL ENGINEERING 580

New Product Commercialization

The objectives of the course are to understand and apply concepts and techniques of product commercialization. The course focuses on taking student created product concepts and having student teams drive the concepts to become actual products. Product design, prototype creation, market analysis, and financial

analysis all come together within the student team to create a viable product. If ideas are worthy, teams may work with the University's CTech IncUBator to actually commercialize their products. Students are strongly encouraged to find a sponsor to actually commercialize their product ideas.

3 credit hours

ELECTRICAL ENGINEERING 596

Seminar

Lecture hours and topics to be arranged with instructor. Prerequisite: Electrical Engineering 597 or 598.

1 credit hour

ELECTRICAL ENGINEERING 597

Master's Project

Lecture hours and topics to be arranged with Department Chair.

3 credit hour

ELECTRICAL ENGINEERING 598

Thesis in Electrical Engineering

Lecture hours, semester hours and topics to be arranged with Department Chair.

3-6 credit hours

ELECTRICAL ENGINEERING 599

Independent Study in Electrical Engineering

Independent study of advanced topics in Electrical Engineering and submission of project report as required. Problem assignment to be arranged with and approved by the Department Chair.

3 credit hours

Engineering

ENGINEERING 111

Introduction to Engineering

This course introduces the student to the engineering design process on a beginning level. Emphasis is placed on the structure of the design process involving problem definition, development of alternatives, analysis, decision making and iteration. One guided design project and one independent project are completed by student project teams. Concurrent lectures and homework assignments develop skills in data management, mechanics, chemistry, electrical theory, energy and economics. Personal computer usage is emphasized for mathematical calculations and the preparation of engineering reports. Prerequisite: MATH 109.
3 semester hours.

ENGINEERING 290

Economics & Management of Engineering

Projects

The design process, engineering economics, project planning and ethics in engineering practice. A required course for all engineering majors, normally taken in the junior year, offered both semesters. Prerequisite: FYS 101, CPSC 101, MATH 110.

3 lecture hours; 3 semester hours

ENGINEERING 400

Engineering Colloquia Series

This course is a series of seminars covering a spectrum of engineering topics. National and international distinguished speakers are invited to deliver the seminars. All Engineering students are required to register for the colloquia series.

1 semester hour

ENGINEERING 404

Optimization

Optimization is the maximization of an objective function involving multiple variables, subject to certain constraints. This course introduces the theory and application of optimization. Topics discussed include optimization, linear programming, the simplex algorithm, transportation, assignment, decision analysis. Software used includes Excel spread sheet and LINGO.

3 semester hours

Finance

FINANCE 400

Financial Management

This course provides students with the opportunity to learn the basic tools and concepts of financial management. It will discuss important issues in modern finance, including the time value of money, valuation of stock and bonds, capital budgeting, risk and return tradeoff, portfolio analysis, capital asset pricing model and financing decisions. Basic accounting and statistics are essential to understanding the principles developed in this course. Prerequisites: Admission to graduate study. Prerequisites: FIN 400 and completion of all required Finance concentration courses or concurrent registration in final required concentration courses.
3 semester credits

FINANCE 505

Advanced Financial Management and Policy

This course provides a general survey of the body of knowledge of corporate finance. Corporate finance is an area of finance deal-

Finance • Global Development and Peace

ing with the financial decisions corporations make and the tools and analyses used to make these decisions. The primary goal of corporate finance is to enhance corporate value and shareholder's wealth. To achieve this goal, financial managers must make important decisions such as project evaluations and investment decisions, financing decisions and dividend decisions. A solid understanding of the financial markets is also essential. The main concepts and principles in the study of corporate finance are also applicable to the financial problems of all kinds of firms. Basic accounting and statistics are essential to understanding the principles developed in this course.

3 semester credits

FINANCE 510

International Accounting

This is an introductory course about international financial management with special emphasis on multinational enterprises (MNEs). A MNE is defined broadly as one that is incorporated in one country but has operating subsidiaries, branches or affiliates located in other countries. Today, almost all large companies are multinational with the 1,000 largest MNEs accounting for about 80% of the world's industrial production. Main topics to be covered in this course include the foreign exchange market, exchange rate determination, foreign exchange risk management, and global debt and equity financing. The global financial environment such as the international monetary system and the balance of payments are also discussed. Prerequisites: FIN 400 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

FINANCE 520

Investment Analysis

This course provides a framework for the analysis of individual securities such as stocks, bonds and other financial instruments. It develops a systematic framework for the construction of efficient portfolios and optimal investment strategies. It also discusses the investment environment that includes the financial markets and major financial institutions, the Federal Reserve, and the determination of interest rates. Various investment strategies used by practitioners are also discussed. Prerequisites: FIN 400 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

FINANCE 530

Technical Analysis and Trading

This is a hands-on course that teaches principles and methods of selecting and managing stocks using professional trading software. Theoretical concepts and trading principles will be taught throughout the course and students will manage an e-portfolio in real-time with imaginary funds. Prerequisites: FIN 400 and completion of all required Finance concentration courses or concurrent registration in final required concentration courses.

3 semester credits

FINANCE 540

Financial Analysis and Modeling

This course introduces important financial models and shows how they can be solved numerically and/or simulated using computer technology (e.g. Excel). This class covers standard financial models in the areas of corporate finance, financial statement simulation, accounting model, portfolio problems, options, portfolio insurance, duration, and immunization. It will give tools for understanding the computational intricacies in finance. Too often, finance courses stop short of making a connection between textbook finance and the problems of real-world business. This course bridges this gap between theory and practice by providing a nuts-and-bolts guide to solving common financial and accounting models with spreadsheets. Prerequisites: FIN 400 and completion of all required Finance concentration courses or concurrent registration in final required concentration courses.

3 semester credits

FINANCE 545

Financial Derivatives and Risk Management

This course covers financial derivatives such as forward contracts, futures contracts, options and swaps. A derivative is a financial instrument that is derived from the value of an underlying asset. The underlying asset can be commodities, equities, bonds, foreign exchange, or indices such as a stock market index, consumer price index or even an index of weather conditions. These derivatives can not only be used for speculation and arbitrage, but more importantly, can also be used for risk management. Students will develop a working knowledge of how these derivatives are used and how they are priced. Prerequisites: FIN 400 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

FINANCE 550

Cases in Finance

The focus of this course is the application of managerial finance principles (from FIN400: Financial Management) to the financial decisions made by business. The purpose is to develop student analytical ability through the discussion and analysis of finance cases. Topics covered include financial concepts and planning; valuation, rates of return and leverage; cost of capital; dividend policy; sources and uses of investment and working capital; and international finance. Prerequisites: FIN 400 and completion of all core courses or concurrent registration in final core courses. For the Global Financial Services concentration, this course should be taken as the final required Global Financial Services course.

3 semester credits

FINANCE 555

Management of Financial Institutions

This course covers the management of financial institutions (FIs), including depository institutions such as commercial banks and savings institutions, insurance companies, securities firms and investment banks, mutual funds, and finance companies. The focus is on risk measurement and management facing these FIs. The roles and operations of financial markets and various financial instruments and the impact of interest rates on the economy will also be discussed. Prerequisites: FIN 400 and completion of all required Finance concentration courses or concurrent registration in final required concentration courses.

3 semester credits

FINANCE 570

Managerial Economics

Managerial economics deals with the application of economic theories to real-world business decisions. A course in managerial economics provides students with the fundamental analytical tools that can and should be used in marketing, finance, production, and strategic management. Managerial economic techniques seek to achieve the objectives of the business organization in the most efficient manner, while considering both explicit and implicit constraints on achieving the objectives. Some basic quantitative skills such as statistics and calculus are required. Prerequisites: ECON 400, MGMT 400, FIN 400 and completion of all core courses or concurrent registration in final core courses. This course may be taken as an elective with required Finance and Management concentration courses.

3 semester credits

Global Development and Peace

FINANCE 525

International Financial Management

This is an advanced course in international financial management. It will cover various aspects of financial management of multinational enterprises (MNEs), including the foreign exchange market, currency derivatives, global financial markets, international portfolio investment, cross-border direct investment, and foreign exchange and interest rate risk management. Prerequisites: FIN 600 and completion of all required Finance concentration courses or concurrent registration in final required concentration courses. Prerequisites for International Business: FIN 600 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

Global Development and Peace

GLOBAL DEVELOPMENT AND PEACE 500

Graduate Co-op/Internship in Global Development and Peace

Students may complete a curricular practical training that reflects the competencies that the students has developed in the Global Development and Peace program. Students need to have their supervisor in the training certify satisfactory task performance and students must submit a written evaluation of their experience.

1-3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 501

Research Methods

This is an introductory course in qualitative and quantitative research methods. It is designed to introduce you to basic concepts and issues encountered in research investigation. We will discuss what research is, the tools of research, research design, and writing the research report. Included will be an introduction to a diversity of research methods, including survey, historical research, participant and non-participant observation, experimental design, and content analysis. An overview of statistical means of data interpretation also will be presented, including correlations, t-tests, chi-square tests, and so forth. Legal and ethical issues related to research, including research with human subjects, will be examined.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 511

Issues in Economic Development

Course Description: This course explores current issues in economic development including poverty and poverty alleviation, strategies to overcome poverty and underdevelopment including microfinance, the roles of multilateral financial institutions, globalization, and the Washington Consensus. The course will also explore the roles of regional arrangements and development institutions in attempts to overcome underdevelopment. The theoretical underpinning of the course lies in the many schools of thought that have produced explanations of the causes and consequences of development and underdevelopment. The course attempts to plot strategies to achieve goals of economic development.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 521

Inequality, Poverty and Globalization

This course examines two key issues for the international community in an era of globalization: inequality and poverty. Various theoretical, historical and empirical approaches will be used in analyzing the causes and consequences of inequality and poverty for the developing world. Students are also encouraged to develop economic, political, cultural, and social solutions to the chronic issues of poverty and inequality in the world.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 522

International Conflict Negotiation

This course examines theories about and sources of conflict (resource allocation and shortage; ideological, religious, and cultural disagreement; power distribution; perceptions of security; etc) to set the stage for conflict analysis and negotiation. In conflict analysis, the impact of cultural-linguistic systems on agreements and disagreements is examined. Culturally sensitive strategies of negotiation, conflict resolution, and mediation also are examined and practiced. Students will write several case reports on situations of conflict and also prepare a medium-length (20 pp. or so) term paper.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 523

Corruption

This course introduces students to corruption – definition, causes, practice, and consequences. It seeks to inquire into the economic, political and human costs of corruption, and the role of corruption in weak or malgovernance. The course also seeks to inquire into role of corruption in state collapse and state failure.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 524

Political and Economic Integration

This course explores models of integration – functionalism, customs union, political integration, and federalism. Dual legislative systems are examined as instruments of harmonization of laws, and the roles of secretariats as vehicles of transition are explored. The course considers historical and contemporary models including the Federation of the West Indies, and the European Union. The course examines shortcomings of, and successful attempts at, political and economic integration.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 525

Globalization, Peace and Conflict

This course will examine the many meanings of globalization: economic, political, social, and cultural and explore how these global transformations are altering dynamics of peacemaking and conflict at both the international and domestic levels. Among other topics, the course will examine the relationship between economic integration and war and civil war; economic integration and political conflict; cultural conflict; ethnic conflict; conflict and gender; and new technologies and conflict. This course also examines the key concepts, themes, theories, and practices involved in peace psychology and the role it plays in peacemaking at a global and local level. Students will be introduced to the issues of peace and conflict across a wide range of interpersonal, community, national and international contexts. In particular, the course will explore when and under what conditions globalization processes may promote peace and under what circumstances they may aggravate old conflicts and lead to the emergence of new ones.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 528

Sociopolitical Implications of World Religions

Sociopolitical interaction between civilizations as defined by their religious cultures will be considered from a historical and contemporary perspective, with an emphasis on the latter. This course will explore practical implications for GLDP professionals in their work in other cultures and societies. It will do so by focusing primarily on the specific features of Christian, Muslim, and Far Eastern Confucian societies and their implications in world affairs. Beyond the discovery of data, their analysis and their evaluation, this course will attempt to answer questions such as: to what extent do current

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clashes between the above (and other) societies have a potential for resolution, and what avenues can be suggested? Is secularization destined to remain a typically Western and Christian phenomenon or is it the inevitable destiny of all cultures? Is religious universalism necessarily a Western particularism wrongly coded as universal? In considering these and other questions, the course will evaluate different competing models, in particular the views of Samuel Huntington and its critics, as well as the vision expressed in Kant's Perpetual Peace and its impact on the creation of the United Nations.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 529

Political Economy of Migration

This course explores the constants and variables of immigration. The course will also consider the extent to which overseas investment in less developed countries and the strengthening of regional customs unions and the WTO will affect immigration trends. Due to the gap in the quality of life in developed versus less developed countries as well as the ongoing demand for cheap, unskilled labor, the number of immigrants to the developed world continues to grow in the United States and in the European Union. This Course also invites learners to assess how the growing demographic of immigrants and their children may affect voting patterns, public education, and the foreign policy priorities of the developed societies where they tend to settle.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 533

Cultural Dimensions of Globalization

While recognizing that a developing consensus exists on economic globalization, this course explores the broader cultural and philosophical implications of globalization. Extending beyond economic globalization to the social, political and cultural dimensions, one must indeed explore the substance of what is being "globalized" in each of these aspects of public life. This course invites learners to grapple with the question of whether or not the world is ready to implement an expanded globalization or whether a "dialogue among civilizations" is a necessary intermediary step in the process.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 537

Global Communication and Mass Media

This course examines media's role in global communication and nation building. In particular, it studies information flow, media and

development, communication and telecommunication policies, transnational media corporations and their role in economic development, media and public diplomacy, international journalism, and information and public campaigns.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 540

Culture and Development

The course will examine development theory and the underlying cultural assumptions of Western models of socioeconomic development. It will also study the innovative non-Western models of development such as micro-credit in South Asian and the Confucian-influenced models of development in parts of East and Southeast Asia. This course will identify the ways in which Western cultural assumptions can clash with the cultural underpinnings of many less developed countries. Using the case study method, learners will identify ways in which potential clashes are anticipated based on a region's history and its cultural underpinnings. Learners will assess the strategies currently used to address development-related challenges and, when appropriate, propose alternative strategies.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 543

Media and National Development

The focus of this course is on communication and national development and nation-building. Students will learn how media, communication, and information can be used to improve economic, political, and cultural conditions of people around the world. In particular, the course will look into the functions media communication and social marketing demonstrate in reducing poverty, combating hunger, improving literacy, promoting public health care, fighting corruption, and protecting the environment among others.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 550

Advanced International Journalism

This course focuses on how international news is covered and how to cover international news. It also examines the issue of news media and foreign relations.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 560

Sustainable Development

This course examines challenges related to balancing the fulfillment of human needs with protecting the environment, taking into

account economic, social, and ecological factors. Among topics discussed are global macrotrends, environmental actors (states, NGOs, etc.), international law, environmental regimes, natural resources, biodiversity, global political economy, alternative and renewable energy, climate change, petroleum, air pollution, hazardous chemicals, and wetlands. Case studies will be used to highlight the challenges faced by the development process due to the social, economic, and quality of life demands of growing populations in less developed countries vis-à-vis the need to preserve and maintain the environment and endangered ecosystems. Prerequisites: GLDP 511 or 528.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 563

International Human Rights

This course is intended for graduate students and the enthusiasts in international affairs and human rights. It explores the concept of human rights and state responsibilities; the realm of national and international responsibilities; and international human rights as obligations. The course seeks to convey to the student the breadth and depth of the discourse since the end of the Second World War, in particular the transition from declarations about the rights of peoples to the affirmation of criminal responsibility by the international community from the Nuremberg Tribunal and Tokyo Trials to the International Criminal Court at the Hague. All this is placed in the wider context of development, and seeks a balance between the broader discourse of political and economic rights.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 581

Advanced Diplomacy

The course builds upon the skills and competences acquired in foundation courses in the Global Development and Peace program, in particular GLDP 522 International Conflict Negotiation. Students will develop enhanced competencies in the areas of diplomacy and related negotiations, principles and practices of diplomacy, in particular in the context of foreign policy of the United States. Prerequisite: GLDP 522 or instructor's permission.

3 Semester Hours

GLOBAL DEVELOPMENT AND PEACE 591

Internship

Students will complete an eight-week cross-cultural internship with international organization or overseas school, agency or company. A written report by the student and an as-

Health Sciences

essment of the Student's performance by the agency where the student interns will be submitted as the basis of evaluation. Prerequisite: completion of 18 credits.

3 semester hours

GLOBAL DEVELOPMENT AND PEACE 598

Tutorial

The tutorial is offered at the completion of the internship. The tutorial invites students in the Master of Arts in Global Development and Peace program to reflect on their internship experience based on the student's experiences prior to and during the tutorial. The tutorial also prepares students for the program's comprehensive exam that includes both an oral and a written component and is conducted in the final weeks of the tutorial class. As a part of the tutorial students also assemble a portfolio of all of the major papers and projects that they have completed during the program and a written reflection on that work. Prerequisite courses: GLDP 591 and completion of at least 21 semesters hours of the GLDP program.

GLOBAL DEVELOPMENT AND PEACE 599

Thesis

As a final project demonstrating competency, students are asked to write and defend a thesis.

3 semester hours

GLOBAL DEVELOPMENT AND PEACE 600

Thesis Extension

1 semester hour

The following courses taught by the School of Business also are available to Global Peace and Development students. Full course descriptions are available under the primary course listings.

MGMT 561

Economic, Regulatory, Political, Cultural and Societal Issues in Environmental and Energy Management

MGMT 560

Foundations of Environmental and Energy Management

MKTG 560

Global Market Management

FIN 525

International Financial Management

FIN 530

Technical Analysis & Trading

MGMT 555

Global Program and Project Management

MGMT 534

Strategic Sourcing and Vendor Management

MGMT 523

Leadership, Teams & Managing Change

MKTG 560

Global Market Management

MKTG 535

e-Marketing

MGMT 585

Product Management, Innovation and Commercialization

Health Sciences

HSCI 710

Introduction to the U.S. Health Care System (Core course)

This course is a broad survey of the various components of the U.S. health system, emphasizing the historical development of the various institutions which make up the system, and financial analysis of those institutions as they currently exist. This class will not address health care systems of countries outside the U.S. This course will include the status and implementation of the new reform legislation at the state and federal levels and to the budgetary implications of health care spending more broadly. There will also be a focus on the major health policy institutions and important issues that cut across institutions, including private insurers and the federal/state financing programs (Medicare and Medicaid/SCHIP). Attention also will be given to mental health issues, disparities in access to care, the quality of care, structure of the delivery system, the challenges of long-term care and the aging of the population, and the drivers of cost growth.

3 Credits

HSCI 715

Research Methods for the Health Sciences (Core course)

A comprehensive exploration of research methods used in the health sciences, with an emphasis on selecting and applying appropriate research designs. This course includes an overview of the scientific method and the various research paradigms in current use; research ethics and the protection of human subjects; the role of theory in problem formulation; internal and external validity; variable measurement and reliability, and generalizability of findings. Specific approaches covered include experimental and quasi-experimental treatment designs, epidemiologic methods (cohort and case-control studies), survey research, evaluation and outcomes research, methodological studies and qualitative research.

3 Credits

HSCI 720

Global Health Issues (Core course)

This course examines contemporary issues in global health policy, delivery and discusses major global health challenges. Students will be introduced to the world's vast diversity of determinants of health and disease. Students will analyze current and emerging global health priorities, including emerging infectious diseases, poverty, conflicts and emergencies. The course will also review health inequity, health systems reforms, and major global initiatives for disease prevention and health promotion. The course will consider how inequalities in education, income, and occupation influence health status. The public policy process will be explored using a variety of contemporary global health case studies which focus on content areas such as maternal health, HIV policy, refugee health and global healthcare delivery. The course will also examine the global health workforce and the impact of widespread global migration of health professionals on receiving and sending countries.

3 Credits

HSCI 725

Fundamentals of Clinical Trials (Core course)

This course is designed to teach the fundamentals of a good clinical trial in the evaluation of a new drug or device, be it industry, federal or philanthropic sponsored. This course begins with the evaluation process leading up to human volunteer trials, through elements in designing a trial, writing the scientific protocol, considering regulatory issues and human subjects' protection, through elements in protocol development/implementation, and quality assurance.

3 Credits

HSCI 730

Healthcare Informatics (Core course)

This course is designed to explore the healthcare information technology (IT) planning and management issues associated with decision making in healthcare organizations. IT provides a framework to understand the types of information systems prevalent in healthcare organizations, evaluate specific strategies related to healthcare IT investments, and understand the ramifications of health data standards and privacy concerns on information management policy. In this course, students will learn how the core competencies of healthcare informatics can be developed and applied using real-world case studies. Students will be exposed

Health Sciences

to specific concepts related to electronic medical records (EMR), health data and standards, sourcing, and IT investments in healthcare. Upon completion of the course, students should be able to explain the key information requirements for effective health information management and decision support, plan and develop the governance and oversight requirements of healthcare IT projects, understand the specification and selection process of healthcare projects, and apply these competencies to real-world problems.

3 Credits

HSCI 735

Data Analysis and Interpretation (Core course)

This course covers the selection, application and interpretation of basic statistical tests and procedures used in the health sciences. Topics include data and variables, hypothesis testing, confidence intervals, t test, Fischer's F test and the one way Analysis of Variance (ANOVA).

3 Credits

HSCI 840

Advanced Disease Processes and Treatment (Clinical concentration)

This is an advanced course providing detailed information about systems physiology and pathophysiology, as well as the epidemiology, etiology, risk factors, pathogenesis, prognosis and treatment of disease, particularly pharmacotherapeutics. Topics covered include cardiopulmonary diseases, infectious diseases, gastroenterology, urology, endocrine and oncology. Lab and specific diagnostic tests will be reviewed. Cultural and ethnic approaches to health care and prescription drug use will also be explored. Special attention will be placed on recognizing drug-drug, drug-nutrient, and drug-exercise interactions.

3 Credits

HSCI 845

Lifestyle and Health Issues (Clinical concentration)

Crucial health issues with an emphasis on the relationship between lifestyle and health. The course enables students to deal more effectively with the health problems faced throughout life. These issues may include stress, sexuality, nutrition, mental health and illness, aging, chronic and communicable disease, drug and alcohol use, and dealing with death, and other selected topics.

3 Credits

HSCI 848

Teaching in the Health Professions (Education

concentration)

This course provides an analytic and developmental approach to the roles and functions of the health professional teacher. Discussions will focus on teaching roles, style and philosophy and the application of learning theory to instructional design and lesson planning. Emphasis will be on selection and application of appropriate teaching strategies and assessment methods according to the goal(s) of instruction and identified learner characteristics. Other issues that will be addressed are student problem management, key ethical and legal responsibilities, and the incorporation of research evidence into teaching practice.

3 Credits

HSCI 849

Educational Assessment (Education concentration)

This course reviews the types, purposes, procedures, uses, and limitations of assessment strategies and techniques. The use of standardized testing and implications for current practice is also discussed. Topics such as creating and using assessment tools that improve instruction (formative assessments) as well as gauge its success (summative assessments) will be reviewed. Learning to design assessments that are carefully aligned with educational objectives is another component of this assessment course. This course will explore aspects of developing objective and subjective exams. Another topic involves the methods of developing and revising assessment tools such as rubrics, checklists, and scoring guides.

3 Credits

HSCI 850

Health Promotion and Disease Prevention (Clinical concentration)

This course provides an overview of the major issues in health promotion and disease prevention. This course will explore the possible association between nutritional status and premature mortality and morbidity. Strategies for risk reduction and the development and implementation of interventions will be presented. Emphasis will be placed on understanding the role nutrition plays not only in health but also in disease prevention.

3 Credits

HSCI 851

Advanced Clinical Nutrition I

Integrative nutrition and functional medicine in Metabolic Health Issues and Cardio Vascular Health (Metabolic Syndrome, Obesity, Weight Loss Resistance, Diabetes Mellitus, Diabesity,

Non - Alcoholic Fatty Liver Disease, Liver Disease, Hypertension, CVD, CHD, Arrhythmia, Vascular Health, Hyperlipidemia, Gastric Bypass Surgery, Hypothyroidism, Hashimoto's Thyroiditis, Graves' Disease and other Endocrine Disorders). Critical assessment and evaluation of current Evidence Based Nutrition (EBN) and other interventions: Low Glycemic Index and Glycemic Load Diets, DASH Diet, Vegetarian Diet, Ketogenic Diet, Fruitarian, Paleo Diet, Whole 30 Diet, Elimination Diets, IFM Intermittent Fasting and Mitochondrial Diet, IFM Cardiometabolic Diet, and all weight loss and FAD diets as they pertain to Metabolic Health Issues and the potential dangers of them. Supplementation EBN evaluation, assessment and dosing for condition specific application.

3 Credits

HSCI 852

Advanced Clinical Nutrition II

Integrative nutrition and functional medicine in cardiovascular health (heart disease, congestive heart failure, arrhythmia, dyslipidemia, hypertension, vascular health, anemia).

3 Credits

HSCI 853

Advanced Clinical Nutrition III

Integrative nutrition and functional medicine in Metabolic Health issues (Metabolic syndrome obesity, chronic fatigue syndrome, diabetes mellitus, and other endocrine disorders).

3 Credits

HSCI 854

Advanced Clinical Nutrition IV

Integrative nutrition and functional medicine in chronic and degenerative diseases, neurological disorders, immune dysfunction, osteoarthritis, chronic inflammation, allergies, cancer.

3 Credits

HSCI 855

Integrative and Complementary Medicine (Clinical concentration)

This course will provide students with a working knowledge about integrative and complementary medicine and clinical applications for patient/client care and research. Federal regulations, cultural beliefs, scientific research and perceived benefits and risks will be explored. The appropriateness of integrating these therapeutic modalities into conventional medicine will also be explored.

3 Credits

HSCI 858

Health Sciences

Curriculum and Syllabus Development in Higher Education (Education concentration)

This course will explore the various types of curricula that exist within organizations as well as goals and philosophical orientations to education. The course is designed to provide students with the knowledge and skills to fulfill leadership positions as enlightened educators. Students will gain a broad understanding of the curriculum development process. Topics will include translation of societal and community expectations into theoretical curricular frameworks for application to problem solving and initiatives for change. Discussions will revolve around what knowledge is most worth learning, why it is worthwhile, and how it will be delivered. Topics will include the effect of internal and external forces on the curriculum. The course will also cover creation of syllabi with a description of the required components.

3 Credits

HSCI 859

Pedagogy and Teaching Strategies for College Instructors (Education concentration)

This course describes the theoretical basis of pedagogy and explores the foundations of teaching in higher education. Issues such as: how students learn, motivating students, and matching teaching methods with learning outcomes are topics designed to improve the quality of higher education. This course not only covers how to connect with students in the learning process, but also how to determine if students are learning. Using active techniques, encouraging classroom participation, motivating students, and various learning styles are examples of topics that will be covered. This course provides practical suggestions to implement the methods discussed.

3 Credits

HSCI 860

Evidence-Based Practice (EBP) (Elective)

This course introduces practitioners to principles of evidence-based practice (EBP), policy, practice guidelines, and information utilization for practice modeling. Increasingly, health care practitioners are presented with new information about recent findings from research and professional consensus statements regarding best-practices and practice guidelines. This course focuses on preparing students to engage in evidence-based practice, providing the skills needed to critically evaluate new information that is available from research findings and professional consensus statements. Furthermore, the course provides skills for integrating this new information into the students

own, personalized approach to practice.

3 Credits

HSCI 865

Principles of Health Policy and Management (Elective)

This course discusses the general principles of planning, management, evaluation, and behavior of public and private health care organizations at the local, state and national levels. The course examines the organization, financing, and delivery of public health and personal health services, with emphasis on major current health policy and management issues related to access, quality and cost.

3 Credits

HSCI 870

Principles of Environmental Toxicology (Elective)

Environmental toxicology is the study of the nature, properties, effects and detection of toxic substances in the environment and in any environmentally exposed species, including humans. This course will provide a general understanding of toxicology related to the environment. Fundamental toxicological concepts will be covered including dose response relationships, absorption of toxicants, distribution and storage of toxicants, biotransformation and elimination of toxicants, target organ toxicity and teratogenesis, mutagenesis, carcinogenesis and risk assessment. The course will include an overview of chemodynamics of contaminants in the environment including fate and transport. The course will examine chemicals of environmental interest and how they are tested and regulated.

3 Credits

HSCI 875

Infectious Diseases (Elective)

This course provides a detailed examination of emerging and reemerging infectious disease, focusing on significant illnesses found in various regions of the world. Topics include information on the underlying mechanisms of microbial emergence, the technology used to detect them, and the strategies available to contain them. Discussion will involve diseases and their causative agents that are major factors in the health of populations the world over. This course will provide a clear understanding of factors associated with disease emergence and re-emergence can help medical and public health professionals to identify, study, and control new and renewed epidemics and outbreaks. Epidemiological characteristics such as incubation period, infectious period,

and means of transmission, the immune response, treatment, prevention and surveillance of these infectious diseases will be evaluated. Up-to-date selections from infectious disease journals as well as information from the Centers for Disease Control and Prevention, the World Health Organization, MedLine Plus, and the American Society for Microbiology will be included to insure that topics are kept current.

3 Credits

HSCI 888

Medical Toxicology (Elective)

This course covers the adverse health effects of exposure to drugs or substances of abuse. The principles of toxicodynamics, toxicokinetics, biotransformation, diagnosis and treatment will be discussed. Emphasis will be placed on mechanism(s) of action of the various drug classes, body system(s) affected, clinical manifestations of problems and the resulting adverse effects on human health and society. Methods of treatment and client education will also be addressed. Laws controlling and governing the use of these drugs/substances and the agencies responsible for them will also be covered.

3 Credits

HSCI 889

Comparative Health Systems (Elective)

This course examines health systems from a comparative perspective in order to understand how various countries address similar problems. This course begins by discussing global health themes, including: international health organizations, right to health, access to medicines, significant international health issues, women's health, children's health, and the environment and health. The course includes a discussion of the different approaches and methods used in comparative health care systems and examine some of the key concepts that will allow for meaningful policy comparisons across countries. The course explores what healthcare systems do and how they have evolved. Different frameworks for healthcare delivery, financing, coverage, and allocation of resources are examined. Students will learn to analyze the advantages and disadvantages of various ways of organizing and financing health care and to evaluate health policies according to a range of criteria for cost, quality and equity. The focus will be on select health care systems around the globe and review the structure and functioning of their health systems.

3 Credits

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HSCI 890

Dissertation Seminar (Required)

This course is designed as a general seminar for all doctoral students in the D.H.Sc. Program. This seminar does not focus on a specific content area but instead is designed to provide students with an overview of the requirements for completing a doctoral dissertation, and provide a forum for discussing dissertation-related concerns and issues with other students. In particular, the seminar emphasizes the development of the conceptual and research skills necessary for the completion of the doctoral dissertation, including the formulation of the dissertation proposal (selection of an area and topic, formulation of appropriate research questions/hypotheses, rationales etc.), the development of the skills necessary for identifying and critically evaluating published research relevant to the chosen dissertation topic, as well as an appropriate research methodology for empirically evaluating the hypotheses proposed. Designed in a seminar format, this course guides students through the formative stages of proposal development in which constant, critical thinking is required. Interaction among the instructor and students is important to transform ideas into a doctoral dissertation project. Must complete all coursework before registering HSCI 890. HSCI 891 must be registered with this course in the same term. Prerequisite: completion of 48 credits of HSCI.

3 Credits

HSCI 891

Dissertation I (Required)

This course is designed to synthesize the knowledge and skills developed in previous research courses and apply them to the doctoral dissertation process. Students learn about all aspects of the process of developing and carrying out the doctoral dissertation, and they gain an understanding of standards and expectations that students need to meet to be successful in completing the dissertation process. Throughout the course, students are required to work closely with their dissertation advisor, as appropriate. Student performance in the course will be assessed by their advisor. To make substantial progress, it is essential that students set and meet goals and have regular contact with their advisor to ensure the dissertation is progressing in a focused and high quality manner. Students will also prepare a dissertation proposal presentation. The course concludes with scholarly discussions and critique of peer presentations. Prerequisite: take

with HSCI 890.

3 Credits

HSCI 892

Dissertation II (Required)

This course focuses on the completion of the doctoral dissertation. Emphasis is placed on understanding and defining the logical relations between elements in a proposal including the problem statement, conceptual/theoretical framework, literature review, research design and methodology. Students will work closely with their advisor throughout this process. Prerequisite: HSCI 891.

3 Credits

HSCI 895

On Campus Seminar (Required)

An intensive one week on campus seminar is the culmination of the Doctor of Health Sciences degree program. This seminar will provide students with a unique on-campus learning experience. Health care professionals who are established and leaders in their fields will be recruited as guest lecturers. In addition to the lectures, students will have the opportunity to hone their skills by attending workshops led by experienced clinicians. Topics such as improving patient care and interviewing techniques will be featured. Finally, students will be required to present their dissertations and submit a report of their experiences at the seminar. Prerequisite: HSCI 892.

3 Credits

Global Media and Communication Studies

GLOBAL MEDIA AND COMMUNICATION STUDIES 500

Graduate Co-op/Internship in Global Media & Communications

Students may complete a curricular practical training that reflects the competencies that the students has developed in the Global Media and Communication Studies program. Students need to have their supervisor the training certify satisfactory task performance and students must submit a written evaluation of their experience.

1-3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES/GLDP 501

Graduate Seminar in Research Methods

This is an introductory course in qualitative and quantitative research methods. It is designed to introduce you to basic concepts and issues (statistical, analytical, and ethical)

encountered in research investigation. We will discuss what research is, the tools of research, research design, and writing the research report. Included will be an introduction to a diversity of research methods, including survey, historical research, experimental methods, content analysis, and so forth. An overview of statistical means of data interpretation also will be presented, including correlation, t-tests, ANOVA, ChiSquare Test, Sign Test, regression analysis, and so forth.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES 511

Communication Theories

This course focuses on communication theories. Major communication theories in the areas of information processing, persuasion, influence, decision-making, conflict resolution, group communication, intercultural communication, organizational communication, media communication, new media communication, social media and culture, media effects, and public opinion will be studied.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES/GLDP 522

Conflict Analysis and Resolution/International Conflict and Negotiation

This course examines theories about and sources of conflict (resource allocation and shortage; ideological, religious, and cultural disagreement; power distribution; perceptions of security; etc) to set the stage for conflict analysis and negotiation. In conflict analysis, the impact of cultural-linguistic systems on agreements and disagreements is examined. Culturally sensitive strategies of negotiation, conflict resolution, and mediation also are examined and practiced.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES/GLDP 528

Sociopolitical Implications of World Religions

This course identifies the underlying conditions needed for the realization of a stable global economy and it highlights the ways in which terrorism impacts on the stability of markets and on investment and lending trends and on interest rates in affected regions and stages. The course also explores the "practical: rationale for terrorism as well as terrorism ideological and philosophical roots as well as the actual historical trajectory of terrorist organization and states. Through the case study method, we will review those venues where terrorism has been diffused and attempt to understand such developments and their applications to contemporary society.

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3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES/GLDP 529

Advanced Intercultural Communication

This course studies different cultures around the world. In particular, it examines value systems, gender roles, and family structures. It will also examine the relationship between culture and religion, culture and economic development, culture and media, culture and new media, and culture and human development.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES 533

Cyber War and Security

This course views computer security as a strategic concept, not a technical discipline. The world's booming dependence on the powerful yet vulnerable Internet—combined with the growing capabilities of cyber attackers—currently jeopardizes national and international security. Strategic challenges projected by state and non-state actors present in the cyberspace require relevant strategic knowledge, thinking, and solutions.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES 535

International Advertising and Public Relations

This course focuses on the theoretical and practical aspects of international advertising and public relations. In particular, it examines the characteristics, problems, and challenges in the areas of international advertising and public relations. It also studies how media and new media are used for advertising and public relations in an international setting. Business, economic, cultural, social, and political factors will be analyzed in the context of international advertising and public relations.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES/GLDP 537

Global Communication and Mass Media

Critical study and applications of theories and principles of global communication and mass media. Analysis of the roles traditional media, new media, and media professionals play in politics, governance, and international relations. Examination of how media systems work in different countries, how journalists cover news and events, how information flows globally, and what impact information flow creates to countries and peoples around the world.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES/GLDP 543

Communication and National Development

The focus of this course is on communication and national development and nation building. Students will learn how media, communication, information, and media technology are used and can be used to improve economic, political, and cultural conditions of people around the world. In particular, the course will look into the functions media communication, social media networking, and social marketing demonstrate in reducing poverty, combating hunger, improving literacy, promoting public health care, fighting corruption, and protecting the environment among others.

GLOBAL MEDIA AND COMMUNICATION STUDIES 546

New Media and Information Management

This course examines media industry from business and management perspectives. It focuses on business concepts, media management theories, and the impact of digital media on the media industry landscape.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES 552

Advanced Web Publishing and Design

This course focuses on Web Publishing and Design methods using current Web design and graphic tools. Students will learn the techniques and tools to create Web sites and learn to main the Web sites for clients and consumers.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES 555

News Media and International Journalism

This course focuses on how international news is gathered and reported and how journalists should cover international news. The course also examines the issues of international news media and foreign relations.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES 557

Political Communication and Public Diplomacy

This course focuses on the relationship between media and politics and media and public diplomacy. It will also examine the issues of freedom of speech and freedom of the press, media as mouthpiece or watchdog. The course will also study how media are used in governance, how public opinion is formed, shaped, and influenced, how political and public agenda are set, and how media can be used for public diplomacy.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES 562

Media Communication Law and Legal Issues

This course examines the federal, state, and

local laws that most directly affect mass communication in the United States. It will also look into the judicial systems in other countries. Issues covered will include freedom of speech, freedom of the press, libel, invasion of privacy, news gathering, source protection, copyright, and truth in advertisements.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES 572

Advanced Multimedia

This course focuses on advanced multimedia technology and techniques. Students will learn the most current tools, software, and techniques to create and edit multimedia digital videos to be used for multiple mediums and platforms.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES 591

Internship

The Graduate Internship is completed once the student has completed 18 credits in the GMCS program. It serves as the venue in which students can accomplish two important outcomes, i.e., they can apply the foreign language that they have been studying in an overseas setting (international GMCS students may do their internship in the US if they already speak a second world language in their home country rather than English) and they can intern in an agency or organization where the skills that they have acquired in the GMCS academic program can be put into practice. New Media students will be expected to complete a project or portfolio, which demonstrates their ability to communicate cross-culturally in the New Media environment. Global Communications students will produce a project demonstrating the ability to communicate interculturally in a business, government or NGO setting. Prerequisite: completion of 18 credits.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES 599

Tutorial

The tutorial is offered at the completion of the internship. The tutorial invites students in the Master of Arts in Global Media and Communication Studies program to reflect on their internship experience based on the student's experiences prior to and during the tutorial. The tutorial also prepares students for the program's comprehensive exam that includes both an oral and a written component and is conducted in the final weeks of the tutorial class. As a part of the tutorial students also assemble a portfolio of all of the major papers and projects that they have completed during

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the program and a written reflection on that work. Prerequisite courses: GMCS 591 and completion of at least 21 semester hours of the GMCS program.

3 semester hours

GLOBAL MEDIA AND COMMUNICATION STUDIES 599

Thesis

The thesis represents the culmination of the MA in Global Media and Communication Studies and demonstrates competency in the major as well as the track in which the student has chosen to specialize. The Thesis requires identifying a theme or topic selected by the student in consultation with the thesis adviser and this is followed by detailed research on the topic and the analysis of findings in the form of substantial written work. This is normally done within the confines of the student's final semester of study in the program.

3 semester hours

Information Systems and Knowledge Management

INFORMATION SYSTEMS AND KNOWLEDGE MANAGEMENT 400

Information Systems and Technology

Information technology has become a key component for accomplishing strategic and operational goals in organizations today. As such, organizations expect their new employees to have a basic understanding of information technologies. To accomplish organizational goals and advance one's career path, one needs to understand and apply information technologies effectively, efficiently, and creatively. The purpose of this course is to provide an introduction to information systems and technology and to familiarize students with the fundamental concepts and principles of information systems. The course is targeted for graduate students who have little or no background in information systems. Therefore, it focuses on breadth of coverage rather than depth in any specific area. Prerequisites: Admission to graduate study.

3 semester credits

INFORMATION SYSTEMS AND KNOWLEDGE MANAGEMENT 505

Knowledge Management and Business Intelligence

This course will explore various issues of creating, storing, sharing and applying knowledge in organizational environment. The course introduces guiding theories and concepts of knowledge management and examines various tools used in the processes.

Then the course also explores business and management topics in knowledge management, including general issues in evaluating informal systems like knowledge management systems and the relationship of knowledge management to the work, etc. Prerequisites: ITKM 505 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

INFORMATION SYSTEMS AND KNOWLEDGE MANAGEMENT 548

Enterprise Intelligence & Decision Support System

If information is business' lifeblood then enterprise intelligence (referred to as "business intelligence" and "BI" for the remainder of this document) is its beating heart, ensuring actionable information reaches everyone who needs it throughout the enterprise. With business analytics, big data and cloud BI exploding in the marketplace professionals should understand BI to help their enterprises harness the power of their data. This course provides that understanding. Additional topics and cases are added to compliment the text, written for managers grappling with how to leverage their enterprise data for positive results.

3 semester credits

INFORMATION SYSTEMS AND KNOWLEDGE MANAGEMENT 549

Technical Concepts for Analytics Professionals

Success requires knowledge of your functional area and mastery of the data that fuels it. This course provides the technical understanding and critical thinking skills needed to adopt, learn and apply relevant tools and techniques to analyze data with confidence. Students will gain hands on experience with structured query language (SQL) and R, from an applied perspective. In addition, they will be exposed to database, programming, analytics and statistical concepts. They will emerge ready to engage in additional study or to secure jobs in the marketplace that require these skills.

3 semester credits

INFORMATION SYSTEMS AND KNOWLEDGE MANAGEMENT 500

Information Technology & Quantitative Methods

Data preparation and cleaning, data analysis, and data visualization are now at the heart of managerial decision making. This course will illustrate both IT and Quantitative Methods through three fairly involved examples and extensive hands-on experience. Cleaning data will lead us to database principles that underlie data independence and referential integrity. Summarizing a modest-sized dataset (about 8,000 rows) will introduce statistical summaries, some basic visualization tools, and the statistics

behind correlation coefficients and matrices. Pivot Tables and various visualization techniques will allow us to answer the question, "What is the data telling us?" The final project allow us to apply results from calculus to generate forecasts which we will then visually and statistically compare by using 3-D graphics and hypothesis testing. We will use the computer for the entire course; nothing is done by hand.

3 semester credits

INFORMATION SYSTEMS AND KNOWLEDGE MANAGEMENT 560

Foundations in Advanced Enterprise Analytics

This course introduces the student to advanced business analytics. The course covers how to manage business analytics studies, exploratory data analysis, diverse modelling algorithms, and forward-looking reporting techniques. It is assumed that the student is comfortable with programming, and can learn and use new programming languages.

3 semester credits

Management

MANAGEMENT 400

Leadership and Management

The purpose of this course is to introduce students to the primary tenets of leadership and management. Successful organizations foster both innovation and efficiency. Students will evaluate the different dynamics related to realizing organizational progress through the effective and efficient use of talent, structure, culture, methods, and technology. In addition to the required textbooks, students will be required to research industry journals as a way to evaluate the application of leadership and management techniques in real settings across various industries. Prerequisites: Admission to graduate study.

3 semester credits

MANAGEMENT 500

Management & Marketing

This course serves as a graduate introduction to the theory and practice of both management and marketing, two separate, yet related, fields of business study. The management portion of the course will address the four key tenets of management: planning, organizing, leading and controlling. The marketing portion of the course will address creating, delivering, and communicating value by building customer relationships via the marketing mix: product, price, place (distribution), and promotion. Both parts of the course will examine the effects of globalization, technology, and social

Management

responsibility. In addition to textbooks and other readings, the course will use individual and group projects to develop real-world solutions to challenges posed in these two disciplines.

3 semester credits

MANAGEMENT 505

Organizational Behavior

This course enables students to explore individual and group behavior in organizations and the contextual factors that impact workforce performance and organizational effectiveness. An understanding of topics including organizational culture and structure, ethics and corporate social responsibility, team dynamics, leadership, decision making, and motivation is emphasized. Students gain insight from the perspective of both theory-oriented research and practice-oriented professional communities through the discussion of concepts and organizational practices and the analysis of research findings and trends.

3 semester credits

MANAGEMENT 511

Human Resources Management

This course enables students to examine the current research findings, trends, and best practices of human resource management, as well as the strategies and tactics necessary to sustain an effective and proactive human resources function in an organization. An understanding of topics including recruitment and selection, employment law, performance management, training and development, compensation and benefits, and employee engagement is emphasized, in both domestic and global contexts. Students will gain insight into effectively leveraging findings from relevant research studies to address current and projected human resource management challenges and needs.

3 semester credits

MANAGEMENT 512

Organizational Development

The course is a hands-on course that provides the concepts and practical tools needed to start a small business. The course offers instruction in accounting concepts specific to small businesses experience with accounting software. Understanding of financing opportunities including bank loans and venture capital will enable the student to obtain financing for a small business. Students will also study basic financial management principles relevant to small business. The course also focuses on set-

ting up the legal structure for the business by enabling the student to choose the appropriate organizational form and to study the regulatory and employment laws specific to small businesses. Prerequisites: MGMT 505 and completion of all required Management Major courses or concurrent registration in final required major courses.

3 semester credits

MANAGEMENT 515

Assessment

This course focuses on workplace assessment related to recruitment, placement, and workplace training. Performance appraisal is emphasized including employee development, development of objectives and process, monitoring, retention and separation. The understanding of selection and assessment instruments and methodology are studied as well as the statistical analysis required for psychometric assessment. Prerequisites: MGMT 400, MGMT 505 and completion of all core courses or concurrent registration in final core courses. Normally students take MGMT 511 before MGMT 512.

3 semester credits

MANAGEMENT 520

Fundamentals of Entrepreneurship

This course will begin by addressing the concept of development of a new venture. The course will then address the fundamentals such as the financing important to the new venture and its creator, competitive positioning, branding and imaging, stationery, marketing, protecting intellectual property, the legal entity structure, the website development components and cost. The class will teach how to source capital and then further how to pitch to capital providers. Each student will develop a minimum viable product by producing a business model canvas.

3 semester credits

MANAGEMENT 522

Conflict & Negotiation

The development of conflict-management and negotiating skills are taught in this course with particular emphasis on achieving effective and efficient outcomes within a global and multicultural context. Experiential exercises, readings and discussions will demonstrate various strategies for a broad range of negotiating scenarios, e.g., buyer-seller, management-labor, personal salary increase, etc. Prerequisites for Management Major or Human Resources Management Major: MGMT 400 and MKTG 400 and completion of all required major courses

or concurrent registration in final required Major courses.

Course is cross-listed with MKTG 522.

3 semester credits

MANAGEMENT 523

Leadership, Teams and Managing Change

This course focuses on the development of leadership skills important in the effective management of change. Through role-playing exercises, videotapes, diagnostic tools, seminar discussion, selected readings, and a group project, students will learn theory and build interpersonal skills necessary for providing leadership in diverse multicultural groups and organizations. The course will address the managerial issues present in organizations undergoing accelerating change and adopting a culture of creativity. Creating and sustaining high performance multi-cultural and interdisciplinary traditional and virtual teams is covered. Prerequisite: Admission to graduate studies.

3 semester credits

MANAGEMENT 525

Counseling

The course surveys counseling theory, counseling strategies, and appraisal procedures. The purpose is to enable the human resources manager to identify potential employee problems such as addiction, mid-life issues, and psychological disorders. This training will facilitate the ability of the manager to refer employees for professional counseling and intervention. There will also be emphasis on resolving workplace interpersonal conflicts. Prerequisite: MGMT 505 and completion of all required Human Resources Management Major courses or concurrent registration in final required major courses.

3 semester credits

MANAGEMENT 534

Strategic Sourcing and Vendor Management

This course covers the rewards and risks of outsourcing and vendor management and identifies where outsourcing should be used and not used. The objectives of the course are to help students understand how to plan, direct, manage and more effectively participate in outsourcing initiatives in terms of the feasibility of outsourcing (off-shore, near-shore, rural-shore, best shore), vendor selection, contract negotiation, vendor management and evaluation, risk assessment and terminating outsourcing deals.

3 semester credits

MANAGEMENT 535

Fin&Acct Non-Fin Mgrs

Management • Marketing

3 semester credits

MANAGEMENT 539

International Issues

This course focuses on current international issues that affect business operations at home and abroad. Changing business environments are discussed and analyzed. Students are required to formulate new global business strategies in light of emerging international trends and events. In some cases, students may supplement their study by field trips and on-site analysis. Prerequisites: MGMT-400, ACCT-400, FIN-400, ECON-400.

3 semester hours

MANAGEMENT 545

Labor & Employment Law

Students study the current employment and labor law in the U.S. and the historical development of these laws from common law to existing law. The course covers a wide range of legal and regulatory topics needed for human resources management including workplace safety, family leave, equal employment and pay, wrongful discharge, privacy, harassment, and illegal workers. In addition, development of global laws and laws related to employment and labor in other countries are reviewed. Prerequisites: MGMT 400, BLAW 400 and completion of all core courses or concurrent registration in final core courses. Normally students take MGMT 511 before or concurrent with BLAW 545.

3 semester credits

MANAGEMENT 548

Business Intelligence & Decision Support Systems

3 semester credits

MANAGEMENT 555

Global Program and Project Management

This course focuses on the managerial aspects of how to effectively manage, plan and execute programs/projects with a focus on high quality deliverables arriving on time, within budget, within scope and to the customer's satisfaction. Areas covered will include program and project management life cycle phases, executive sponsorship, portfolio investment management selection and prioritization, requirements, scope and project charters, planning, development, estimating, staffing, leadership, scheduling, risk management, change management, project metrics, vendor integration and management and other related topics. This course is based on current and emerging best practices and principles. Project Manage-

ment certification requirements and real world case studies are discussed.

3 semester credits

MANAGEMENT 560

Foundations of Business Process and Operations Management

The student is introduced to process management methods which are fundamental to delivery of products and services. Topics covered include capacity analysis and planning, inventory management, design of jobs for quality and cost effectiveness, demand forecasting, work flow management, queuing theory, project management and total quality management.

3 semester credits

MGMT 563

Epidemiology, Population Health, and Data Analysis

This course describes the epidemiological triangle and how it is used to explain the spread of disease, which is used to create models for disease prevention and control. The course also leverages statistical models that investigate ways to interpret population health data for preventing disease, as well as addressing social determinants of health to improve health equity.

3 semester credits

MANAGEMENT 565

Foundations of Product Management

This course covers new product development, innovation and commercialization, as well as the product management life cycle. Topics covered include the feasibility and investment prioritization of new product or product enhancements, raising capital for new product development, market and customer needs analysis, make versus buy alternatives and product launch and commercialization issues and considerations, including promotion, pricing, distribution, competition, pre and post sales support, systems and infrastructure support, customer service and related areas. Students will work on individual and team projects that will include the development of a new product market/ business plan.

3 semester credits

MANAGEMENT 568

Technical Concepts for Analytics

3 semester credits

MANAGEMENT 582

Business Planning

This course focuses on the development of the entrepreneurial spirit and develops specific

skills to fulfill plans that develop from that creative and persevering spirit. Many different aspects of entrepreneurial ability will be emphasized including a strong work ethic, leadership, team building and the development of business relationships. The course also covers the growth of an existing business through entrepreneurship. Students will conceive, develop and present a comprehensive business plan intended to obtain external financial support or internal organizational support. This course includes a comprehensive review of the marketing, operational, financial, product, service and business strategy and plans that must be mastered and developed as foundation for start-up of a small business or entrepreneurial enterprise.

3 semester credits

MANAGEMENT 585

New Product Commercialization

The objectives of the course are to understand and apply concepts and techniques of product Commercialization. The course focuses on taking student created product concepts and having student teams drive the concepts to become actual products. Product design, prototype creation, market analysis, and financial analysis all come together within the student team to create a viable product. If ideas are worthy, teams may work with the University's CTech IncUBator to actually commercialize their products. Students are strongly encouraged to find a sponsor to actually commercialize their product ideas. Prerequisite: MBA students must have completed all foundation level courses and have advisor approval.

3 semester credits

MANAGEMENT 590

Intellectual Property Management

3 semester credits

Marketing

MARKETING 400

Marketing

The course will explore the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services, to create exchanges that satisfy individual, organizational, and societal objectives. The underpinnings of the marketing discipline will be taught through text, case, articles and class discussion. Mastery of these principles will come through a variety of individual and group assignments to create marketing solutions for real-world products. Prerequisite:

Marketing • Masters in Public Health

Admission to graduate study.

3 semester credits

MARKETING 515

Customer Analysis

This course will take up special topics in customer behavior utilizing knowledge not only from research on consumer behavior but from a variety of disciplines including psychology, sociology and anthropology. The leading models of customer behavior in both industrial and consumer settings will be analyzed. The qualitative and quantitative marketing research tools necessary to understand buyer behavior dynamics in any market will be stressed. Prerequisite: MKTG 400 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

MARKETING 560

Global Market Management

This course analyzes strategy, planning, implementation and control for market entry and development. Topics include social, political and economic changes affecting marketing opportunity; focused versus dispersed marketing efforts; marketing in developed and undeveloped countries; and marketing systems required for the various strategic alternatives. The focus will be on creating competitive advantage in the global marketing environment. Prerequisite for Marketing Major: MKTG 400, MKTG 515 and completion of all required Marketing Major courses or concurrent registration in final required Major courses. Prerequisite for International Business Major: MKTG 400 and completion of all core courses or concurrent registration in final core courses.

3 semester credits

MARKETING 505

Marketing Research

This course introduces students to the essentials of marketing and brand management at the graduate level. Students will learn concepts and frameworks from the marketing and branding literatures, such as the definition of marketing and the concept of Customer-Based Brand Equity (CBBE).

3 semester credits

MARKETING 535

Electronic and Mobile Business

The goal of this course is to prepare current and future executives, managers, and strategists to be leaders and create value in the New Economy – to gain understanding and

insight on how the functions of management and marketing in the New Economy have changed as well as how new technology and media forms have created a radically different business environment. The course examines the impact of the evolving virtual worlds of Internet and mobile commerce on the strategy of traditional “brick-and-mortar” companies. Up-to-date information will be utilized from current publications to provide the student with the ability to work in the new wireless world. This new business frontier requires most firms to significantly change their business strategy and presents unprecedented new opportunities for fast acting entrepreneurs. Prerequisites for Information Technology and Knowledge Management: MKTG 400, ITKM 400, and completion of all required Information Technology and Knowledge Management Major courses or concurrent registration in final required Major courses. Prerequisites for Marketing: MKTG 400, ITKM 400, and completion of all required Marketing Major courses or concurrent registration in final required Major courses. Course is cross-listed with ITKM 535.
3 semester credits

MARKETING 520

Customer Relationship Management

This course emphasizes the long term organizational value of developing relationships with customers. The first focus is on the use of data to provide increased value for the firm. Students will understand how to create value for the customer with a systematic analysis of customer needs. The second focus on the nature of interpersonal relationships in a business setting that develops long lasting business relationships. Prerequisite: MKTG 515 and completion of all required Marketing Major courses or concurrent registration in final required Major courses.

3 semester credits

MARKETING 540

Personal Sales and Sales Management

The purpose of this course is to develop the student's ability to engage in real world professional sales and sales management. The foundation of personal sales is to be able to communicate effectively in both one-on-one sales situations and in group presentation situations. Psychological theory related to persuasion and interpersonal relationships will be used to provide the foundation for specific sales techniques. Practical experience in persuading, prospecting, negotiating, referrals, closing the

transaction, and responding to buyer concerns will be utilized. The course will also focus on the management of a sales force including methods of compensation, motivation, hiring and retaining sales people, and the legal and ethical aspects of selling. Prerequisite: MKTG 515 and completion of all required Marketing Major courses or concurrent registration in final required Major courses.
3 semester credits

Masters in Public Health

MPH 501

Introduction to Public Health

Introduction to Public Health is a graduate level course that provides graduate and professional students, with foundational knowledge of public health's historical contributions; the ethical bases; key terms and concepts; system organization; and the social, behavioral, environmental, and biological factors that contribute to specific individual and community health outcomes through interactive learning strategies and the application and integration of concepts to understand and prevent current public health problems and those facing public health in the 21st century.

3 semester hours

MPH 502

Principles of Epidemiology

In this introductory course, students will learn and apply basic concepts of epidemiology to multiple domains of public health. We will illustrate and practice using epidemiology to better understand, characterize, and promote health at a population level. The class will engage the students in active and collaborative learning through team activities, individual projects, case studies, group discussion, and individual projects.
3 semester hours

MPH 503

Biostatistics

This course is an introduction to statistical methods used in biological and medical research. Elementary probability theory, basic concepts of statistical inference, regression and correlation methods, analysis of variance, and study design are covered. Emphasis on applications to medical problems.
3 semester hours

MPH 505

Masters in Public Health

Research Methods

This course will provide students an opportunity to establish an understanding of research through critical exploration of research language, ethics, and approaches. The course introduces the language of research, ethical principles and challenges, and the elements of the research process within quantitative, qualitative, and mixed methods approaches. Participants will use these theoretical underpinnings to begin to critically review literature relevant to their field or interests and determine how research findings are useful in forming their understanding of their work, social, local and global environment.

3 semester hours

MPH 504

Public Health Policy

This course presents an introduction to health policy, i.e., the various ways in which the government plays a role in health and in the provision of health care. Health policies can have a profound effect on quality of life. Accessibility, cost, quality of health care; safety of food, water, and environment; the right to make decisions about our health; these issues are vitally tied to health policies

3 semester hours

MPH 506

Social and Behavioral Aspects of Health

The course is designed to help students develop basic literacy regarding social concepts and processes that influence health status and public health interventions. The course also hopes to help students develop insight into populations with whom they have worked in the past or will work in the future, and to develop one kind of effective writing tool (the narrative) for communicating about psychosocial issues in public health. These overall aims are approached through lectures, discussion, readings, workshopping, individual compositions, and group discussion of student writings.

3 semester hours

MPH 507

Introduction to Environmental Health

Examines health issues, scientific understanding of causes, and possible future approaches to control of the major environmental health problems in industrialized and developing countries. Topics include how the body reacts to environmental pollutants; physical, chemical, and biological agents of environmental contamination; vectors for dissemination (air, water, soil); solid and

hazardous waste; susceptible populations; biomarkers and risk analysis; the scientific basis for policy decisions; and emerging global environmental health problems.

3 semester hours

MPH 508

Global Public Health

This course examines major global health challenges, programs and policies. You will be introduced to the world's vast diversity of determinants of health and disease. You will analyze current and emerging global health priorities, including emerging infectious diseases, poverty, conflicts and emergencies, health inequity, health systems reforms, and major global initiatives for disease prevention and health promotion.

3 semester hours

MPH 509

Community Health Issues

Community Health provides a theoretical background for the study of community health nursing and is based on the synthesis of nursing theory and public health science. Emphasis is on health promotion, health maintenance and disease prevention among populations. The course assists students to recognize and analyze the interrelationships between individuals, families, population groups, and communities in determining the health status of each. The impact of political, economic, social, environmental, and cultural concerns on the health of populations is examined.

3 semester hours

MPH 510

Emergency Management Health Issues

This course is a study of the concepts of medical and healthcare issues in emergency management in mass-casualty and high-impact incidents. The student will learn about the planning and coordination-- from the national to the local levels--necessary to respond to disasters that are natural (such as earthquakes, floods, tornadoes and heat waves); industrial, technological and transportation (such as hazardous materials, air crashes and mass gatherings); conflict-related (such as terrorist attacks and mass shootings); as well as the education, training and research done before, during and after these events.

3 semester hours

MPH 511

Occupational Health

This course is an introduction to major con-

cepts and issues in occupational health and safety. Students from the fields of Industrial Hygiene, Occupational and Environmental Health Nursing, Occupational and Environmental Medicine, Injury Epidemiology and others identify a conceptual framework for working with populations of workers and apply public health principles. Work-related hazards are described in terms of recognition and control. This course relies on the synthesis of knowledge in the behavioral sciences, industrial hygiene, injury epidemiology, safety, nursing theory, toxicology and epidemiology while applying these within a program development and management framework.

3 semester hours

MPH 512

Infectious Diseases

Global Infectious Disease Epidemiology is part of the interdisciplinary Public Health Leadership Program, which prepares public health professionals for leadership positions. Global Infectious Disease Epidemiology covers the interaction between an infectious agent, host, and environment, modes and dynamics of transmission, the role of immunity in infectious disease epidemiology, and disease elimination strategies, focusing on issues affecting a global society.

3 semester hours

MPH 520

Global Health Issues

This course explores contemporary issues, problems, and controversies in global health through an interdisciplinary perspective; examines the complex tapestry of social, economic, political, and environmental factors that affect global health; analyzes global health disparities through a social justice and human rights lens; and exposes students to opportunities in global health program and research

3 semester hours

MPH 521

Program Planning for Global Health

This course will familiarize students with concepts and methodologies required for effective public health program planning and evaluation in a variety of settings, domestic and global. Students in this course will develop a program plan while learning the essential competencies for planning, implementing and evaluating sustainable programs for the maternal and child health population. Given the importance of public health planning and evaluation occurring within the context of interdisciplinary

Mathematics

teams, students will also discuss and practice skills for building highly functional teams and accomplishing individual and group objectives through team work.

3 semester hours

MPH 522

Essentials of Economics and Finance for Global Health

This course examines economics and finance principles as they apply to global health. Students will study issues in the organization, delivery and financing of health care in developing countries. The course first provides students with a 'toolkit' for analyzing issues related to global health economics and finance and then asks the students to apply this 'toolkit' to a variety of a global health issues including demand for health, policy tools to increase demand for health, healthcare financing, social insurance, pharmaceuticals and HIV/AIDS.

3 semester hours

MPH 530

Community Health Sciences

Community-based health interventions are a major public health strategy for promoting population health. This course provides an introduction to the foundations of community-based health interventions and the factors influencing their design, implementation, evaluation, and outcomes. Using social ecological and community-based participatory frameworks, key principles and strategies underlying community-based health interventions are examined. Successful community-based strategies for addressing various public health issues are assessed. Challenges to implementing, evaluating and sustaining successful community-based health interventions, and implications for promoting health equity are discussed.

3 semester hours

MPH 531

Program Planning, Research and Evaluation for Community Health

Careful planning and evaluation of public health programs are essential competencies for public health professionals. Through this course students will gain a basic understanding of how to implement public health programs and evaluate their effectiveness. As this course is designed to be grounded in public health practice, you will complete the course with the skills necessary to develop both a program and evaluation plan. Given the importance of public health planning and evaluation occurring

within the context of interdisciplinary teams, students in this course will also discuss and practice skills for building effective teams and accomplishing individual and group objectives through team work.

3 semester hours

MPH 532

Urban Health and Social Policy

This course will provide students with a foundation for understanding how history, power, privilege and structural inequality interact to produce urban health disparities. An advanced sociology course, Disparities in Urban Health will introduce students to the impact of city life on health and health care in the U.S. and internationally. We will look at the advantages and disadvantages of urbanization on both physical and mental health and the root causes of racial and ethnic disparities in health. We will trace the interaction between specific aspects (e.g., housing, transportation, food outlets, crime) of the urban environment and their impact on health, discuss quality measurement, evaluate strategies for designing healthy communities, and develop recommendations for systems and policy change.

3 semester hours

MPH 540

Health Economics and U.S. Policy

This course provides an overview of the United States healthcare system using a microeconomics lens. You will be introduced to microeconomic theory and empirical studies that will deepen your understanding of how consumers, firms, and the government influence healthcare expenditures (including its quantity and prices), healthcare quality, and patient health outcomes. These economic models will enable you to predict how changes in consumer behavior, the industrial organization of firms, and government policies affect healthcare and health outcomes.

3 semester hours

MPH 541

Public Health Law

This course is about the legal and social justice framework for urgent public health issues, such as regulation of vaccinations, tobacco control and infectious diseases such as Ebola. The course focuses on the U.S. Constitution and the way in which it defines government powers, duties, and restraints to assure the health of all populations. The course also examines the theories and concepts behind public health law, the

constitutional tensions between public health efforts and the counterbalancing rights to liberty, freedom of speech, of association, and others. Students also will learn how to spot the policymaking issues involved with implementation of laws in a community, including public health community organizing and advocacy efforts.

3 semester hours

MPH 542

Public Health Policy as a Prevention Strategy

This course provides an overview of a policy adoption and implementation model, including a discussion of factors to consider when developing policies and key components of policy implementation. This course will introduce students to a prevention policy framework; will present the philosophical, ethical, economic, political and efficacy rationale for this approach to prevention; will contrast policy approaches to prevention with individual-based approaches; and will present examples of different policy mechanisms.

3 semester hours

Mathematics

MATHEMATICS 401

Advanced Analysis for Scientists and Engineers I

Vector spaces and the eigenvalue problem. Partial differential equations and orthogonal functions. Fourier series and integrals, boundary and initial value problems, topics in vector and tensor analysis. Prerequisites: Math 214, Math 215, and Math 301.

3 semester hours

MATHEMATICS 402

Advanced Analysis for Scientists and Engineers II

Functions of a complex variable, conformal mapping, Laurent Series, residues and contour integration. Prerequisites: Math 214, Math 215, and Math 301.

3 semester hours

MATHEMATICS 403

Functions of a Complex Variable I

The general theory of functions of a complex variable. Complex algebra, analytic functions and their mappings, complex integration, infinite series, Taylor and Laurent expansion, isolated singularities, residue theory. Prerequisite: Math 215 (Calculus and Analytic Geometry III) or equivalent.

3 semester hours

MATHEMATICS 404

Functions of a Complex Variable II

Mechanical Engineering

Continuation of Mathematics 403. Additional topics include insofar as time permits, harmonic functions, conformal mapping and applications, normal families. Riemann mapping theorem, analytic continuation, Riemann surfaces, infinite products, entire functions. Prerequisite: Math 403.

3 semester hours

MATHEMATICS 407

Introduction to Modern Analysis

Metric Spaces, sequences and series, continuity differentiation, Riemann-Stieltjes integral, functions of several variables.

3 semester hours

MATHEMATICS 411 & 412

Introduction to Applied Mathematics 1 & 2

Introduction to Hilbert Space, Fourier Series, calculus of variations, boundary value problems, Green's functions and integral equations. *3 semester hours*

MATHEMATICS 414

Numerical Analysis

Interpolation, numerical differentiation and integration, numerical solution of differential equations, least squares, error analysis. Prerequisite: Math 215 (Calculus and Analytic Geometry III) or equivalent. Math 301 (Differential Equations) strongly recommended.

3 semester hours

MATHEMATICS 415

Advanced Numerical Analysis

Convergence, numerical stability, round off error, truncation error arising from the approximation of differential and integral equations. *3 semester hours*

MATHEMATICS 423

Mathematical Statistics I

Probability theory, discrete and continuous distributions, transformations, moment generating functions, characteristic functions, central limit theorem, sampling distributions. Prerequisite: Math 215 (Calculus and Analytic Geometry III) or equivalent.

3 semester hours

MATHEMATICS 424

Mathematical Statistics II

Continuation of Mathematics 423. Additional topics include estimation, testing of hypothesis, confidence intervals, regression, and analysis of variance. Prerequisite: Math 423 or Math 323.

3 semester hours

MATHEMATICS 431

Introduction to Topology and its Application

Elements of point set theory; introduction to topological spaces including metric spaces; separation and countability axioms; connectedness; compactness; completeness. Prerequisite: One year of advanced calculus.

3 semester hours; offered as needed

MATHEMATICS 451

Linear Algebra and Matrix Theory I

Linear vector spaces, bases, dimension, inner product, norm, orthogonality. Linear transformations, matrices, matrix algebra, Hamilton-Cayley Theorem, eigenvalues and eigenvectors, rank. Prerequisite: Math 391 (Modern Algebra) or equivalent.

3 semester hours

MATHEMATICS 453

Modern Algebra I

Groups, rings, fields, ideals, polynomials. Prerequisite: Math 391 (Modern Algebra) or equivalent.

3 semester hours

MATHEMATICS 454

Modern Algebra II

Continuation of Math 453. Modules, field extensions, Galois theory, real fields, special topics. Prerequisite: Math 453.

3 semester hours

MATHEMATICS 480

Selected Topics in Mathematics

Topics of mathematics not covered in other courses. The course may be repeated as long as topical focus changes. Prerequisite: Completion of at least 24 credits in mathematics or permission of instructor.

3 semester hours

Mechanical Engineering

MECHANICAL ENGINEERING 405

System Dynamics and Control

This course is an introduction of mathematical modeling of dynamic systems with mechanical, thermal, hydraulic, and electrical elements. Modeling techniques based on physical principles are used to generate system transfer functions. Analytical and computer simulations are used to study system behaviors. Topics include transient response analysis, frequency response analysis, stability, and feedback control design. Undergraduate equivalent: MEG 305.

3 semester hours

MECHANICAL ENGINEERING 407

Modern Materials and Advanced Manufacturing

Technologies

This course focuses on the study of modern industrial materials and the process of developing creative solutions through conceptual analysis and synthesis on different advanced and automated manufacturing processes. The course will help students to learn the emerging topics in the material and manufacturing industries. The topics cover the study on today's popular industrial materials, material selections and industrial applications, and their related manufacturing techniques in US industry. Topics also include the introduction of quality control (QC) process that is important to the production with the high quality. The course has two class projects which will guide and help students to learn the ways of preparing for professional research and keep track of the latest technologies in modern materials, advanced and automated manufacturing processes.

3 semester hours

MECHANICAL ENGINEERING 410

Advanced Fluid Dynamics

Advanced topics in applied fluid mechanics. Review of continuity, momentum, and energy equations for viscous, incompressible fluid; voracity and circulation concepts and theorems. Selected topics from the following areas: Complex potential, conformal mapping and applications. Airfoil and wing theory. Boundary layer theory; similarity solutions for laminar flows, integral techniques for turbulent flows. Compression and expansion waves in compressible flows; oblique shock waves, Prandtl-Meyer flow. Propagating waves and applications; shock tube, transients in duct systems.

3 semester hours

MECHANICAL ENGINEERING 414

Aerodynamics and Hydynamics

This course extends fluid mechanics topics to the development of air flight vehicle aerodynamics and marine hydrodynamics with the application of these principles to the solution of engineering problems. Aerodynamic topics include: aerodynamics of airfoils and wings, thin airfoil theory, lifting line theory, and supersonic and hypersonic airfoil theory. Hydynamics topics include: linear and nonlinear surface waves and forces on structure and floating bodies.

3 semester hours

MECHANICAL ENGINEERING 415

Propulsion

The course instructs the student in aerospace

Mechanical Engineering

propulsion systems including both air breathing and non-air breathing devices. The course reviews the basic physics, chemistry, thermodynamics and gas laws applicable to propulsion devices. Details of individual engine components such as diffusers, compressors, turbines, propellers, nozzles, and afterburners as well as all major engine types (turbofans, turboprops, turbojets, ramjet) are studied. Course projects include utilization of engine propulsion software and sizing an engine for an aircraft. Prerequisite: Mechanical Engineering 203, Mechanical Engineering 307.

3 semester hours

MECHANICAL ENGINEERING 421

Computer Aided Engineering Design

This course applies 3-D CAD system to industrial product and system design. These CAD systems are very practical and powerful 3-D CAD tools and they have been widely used in the industry. The first half of the class focuses on learning fundamentals of the 3-D system, its popular applications and its related techniques. The special topics of design concept are also included. The second half covers several practical projects. Students will combine the design techniques with the real project and use 3-D tools to design the product or part of industrial system. All projects will be presented by students in class.

3 semester hours

MECHANICAL ENGINEERING 422

Advanced Computer Aided Project Design

This advanced course focuses on some hot and very practical topics in today's industrial design applications. Also, some useful knowledge, such as PLC (Program Logic Control), calculation and selection of industrial motors, fundamentals of automation, sensor technology, and selection of material on different industrial applications are included. Several more complicated projects in this class will help students learn how to manage the different engineering projects and understand all related design issues which will improve the future production and manufacturing process. 3-D CAD tool will be used in designing these advanced engineering projects. All projects should be presented by students in the class.

3 semester hours

MECHANICAL ENGINEERING 423

Computer Aided Manufacturing (CAM) and NC Machining

This course applies manufacturing and various numerical controlled software for designing computer-aided manufacturing and NC ma-

chining systems, processes and algorithms. This course is heavy in implementation of various manufacturing technologies and programming of NC machines.

3 semester hours

MECHANICAL ENGINEERING 424

Advanced CAM & Automation.

This course teaches students to simulate advanced manufacturing processes by learning high level functions in CAD/CAM software package. This course will cover the topics of some advanced and special manufacturing technologies, including laser cutting & welding, water jet cutting & cleaning, and plasma cutting & welding. Automation related topics will also be introduced, including the analysis and application of PLC control systems in manufacturing facilities and modern production systems. Several advanced and real projects will help students to be proficient in using this CAD/CAM package and learn more of US industrial & engineering knowledge through the instructor's lectures & guidance and also the students' self-motivated work.

3 semester hours

MECHANICAL ENGINEERING 425

Machinery and Mechanical System Design

This course focuses on the process of developing creative solutions through conceptual analysis and synthesis on machinery and biomedical instrument design and development processes. The topics cover the concepts of automated and high speed machinery design, basic biomedical instrument design, FDA regulation in biomedical instrument design, basic instrument mechanism design in assisting manufacturing processes, and other biomedical design techniques in today's US biomedical industries. Computer-aided design CAD tool will be used to design the high function machinery and biomedical instrument in this class.

3 semester hours

MECHANICAL ENGINEERING 426

Material Selection for Mechanical Engineers

This course provides students a systematic approach to the selection of materials and processes at various design stages for mechanical engineering applications. The concept of materials performance indices and materials selection charts are introduced with the detailed background of material properties, processing, and mechanics. Structured case studies are shown to use this methodology to select materials for numerous mechanical designs. CES Edu Pack will be introduced as a materials

and processes database and a tool for students to compare, analyze and select materials and processes.

3 semester hours

MECHANICAL ENGINEERING 429 (MEEG 429/ELEG 429)

Electronics Cooling

Thermal management is an important aspect in the design and manufacturing of electronics devices and systems. Power dissipation levels have grown continually every year due to increased functionality and integration in the electronics devices and systems. Appropriate thermal design is imperative in order to prevent high temperature failures, increase the life expectancy of a system, reduce emitted acoustic noise and energy consumption, and meet stringent requirements for reliability. This course teaches students the fundamentals of heat transfer in electronics devices and systems and conduct effective thermal analyses using commercial CFD packages. The course is structured as a combinations of lectures, case studies, and tutorials. Heat transfer theory and discussions of engineering practices will be applied to the thermal design and analysis of electronic systems. Numerical simulation and commercial CFD package will be introduced for thermal fluid analysis and design of electronics systems and "real world" case studies will be used for class discussions and student presentations. The topics including thermal management at the component, board, and system levels, heat sink design, heat pipes, phase-change cooling, and data center cooling.

3 semester hours

MECHANICAL ENGINEERING 430

Design & Innovation

The objective of this course is to convey a sense of Design and Innovation in the development of products. To accomplish this the class shall review a number of case studies and participate in the design of a project. In addition to the semester project we shall discuss a number of topics of concern to Design and Engineering through illustrated talks (slides/tapes) and when available with guest designers and engineers.

3 semester hours

MECHANICAL ENGINEERING 440

Ergonomic Factors in Design

This course introduces the student to the concepts of ergonomics. Ergonomics is the study of fitting the workplace and devises to the capabilities of the human worker. Students

Mechanical Engineering

will have an understanding of the beginnings and evolution of the field of ergonomics. They will learn to recognize risk factors associated with repetitive stress disorders (e.g., carpal tunnel syndrome) and potential sprain/strain injuries as well as be familiar with the body areas affected. This course covers principles of physiology and biomechanics and how they apply to workstation and tool design.

3 semester hours

MECHANICAL ENGINEERING 441

Heating, Ventilating and Air-Conditioning System Design I

This course focuses on the principles of Heating Ventilating and Air Conditioning with understanding of: thermodynamics and psychrometrics; basic HVAC system calculations; design conditions, environmental indices, and control of indoor air quality; heat transmission and solar radiation, including heat transfer coefficients; load estimating fundamentals; cooling and heating load calculations; size duct and piping systems; common basic elements of HVAC systems and types; selection of heat exchangers, fans and pumps; energy estimation.

3 semester hours

MECHANICAL ENGINEERING 442

Heating, Ventilating and Air-Conditioning System Design II

Complete heat loss and heat gain calculations for commercial and industrial buildings will be performed in laboratory through Trane Engineering program software. Students will learn how to layout and design systems per given building architectural plans, using appropriate software, codes, standards, and owner's requirements. Students will select appropriate HVAC equipment, size duct and piping systems; and conduct economic analysis. Energy estimating methods will be studied and an analysis of an actual building conducted. Current federal, state and local codes and standards (ASHRAE) will be examined as they apply to HVAC systems.

3 semester hours

MECHANICAL ENGINEERING 451

Advanced Strength Analysis

This course is designed to give students an advanced understanding of mechanics of materials and their usage in design of mechanical structures and systems. Two-dimensional and three dimensional stress and strain, stress and strain relations, principal stresses; failure theories, factors of safety, stress concentration; beam theory, plate theory, column theory, thin-walled pressure vessels; energy methods,

contact stresses, thermal strains, impact effects, fatigue and fracture, elastic stability. This course includes a design project.

3 semester hours

MECHANICAL ENGINEERING 452

Advanced Vibrations

Brief review of systems with one and two degrees of freedom. Rayleigh's method. Application of Lagrangian and matrix methods to discrete systems with many degrees of freedom; normal mode theory; vibrations of finite continua; solution methods and mathematical properties. Numerical and computer methods. Sensitivity analysis. Applications to machines and structures.

3 semester hours

MECHANICAL ENGINEERING 453

Finite Element Analysis in Mechanical Engineering Design

This course provides conceptual understanding of the theory behind the finite element analysis, the implementation of these theories, and the connection of FEA to CAD and design optimization. Commercial FEA packages are used as numerical analysis tools to obtain solutions to a variety of engineering problems, including solid mechanics and thermal analysis.

3 semester hours

MECHANICAL ENGINEERING 454

Advanced Dynamics

Orthogonal coordinate systems and their transformations. Particle kinematics in inertial and noninertial rotating coordinate systems. Dynamics of systems of particles and rigid bodies. Virtual work and generalized coordinates. Lagrange's equations and Hamilton's principle for holonomic and non-holonomic systems with applications. Lagrange multipliers.

3 semester hours

MECHANICAL ENGINEERING 456

Mechanics of Composite Materials

Introduction to the mechanics of laminated filamentary composites. Prediction of stiffness and strength of laminated plates. Applications.

3 semester hours

MECHANICAL ENGINEERING 458

Fatigue and Fracture Mechanics

Brittle fracture of structures, elastic stress analysis of cracked components, static and dynamic failures, plane stress and plane strain, elastic-plastic fracture mechanics, fatigue crack growth and life prediction under constant and variable amplitude loading, environmental ef-

fects. Term work is mainly design problems and is computer oriented.

3 semester hours

MECHANICAL ENGINEERING 460

Introduction to Robotics

Basic robotics including: position and velocity sensing, actuators, control theory, robot coordinate systems, robot kinematics, differential motions, path control, dynamics, and force control. Robot sensing, simulation of manipulators, automation, and robot programming languages are also investigated.

3 semester hours

MECHANICAL ENGINEERING 462

Applied Thermodynamics

This course is designed to review the fundamentals of classical thermodynamics and apply them to the analysis and design optimization of power and refrigeration energy systems incorporating heat exchangers and combustion processes. The topics include: principles of thermal energy conversion; properties of mixtures; entropy; exergy; applications of the principles of thermodynamics to components and systems, including pumps, compressors, engines, turbines, power plants, renewable energy systems; power and refrigeration cycles. Undergraduate equivalent: MEEG 303.

3 semester hours

MECHANICAL ENGINEERING 463

Advanced Heat Transfer

Topics in conduction, convection and radiation heat transfer. Numerical methods, phase change, boundary layer principles, gas and solar radiation, combined heat and mass transfer.

3 semester hours

MECHANICAL ENGINEERING 464

Thermal Renewable Energy System

This course provides the examination of using renewable energy resources within thermal fluid systems. This class will explore principles and technical details of various thermal renewable energy technologies, such as solar heating & cooling, solar power plant, thermal energy storage, wind energy, geothermal. This course also will dedicate upon the environmental consequences of energy conversion through the US standards and codes.

3 semester hours

MECHANICAL ENGINEERING 467

Introduction to Mechatronics

This course covers development of Mechatronics theory and application to intelligent systems dependent upon the integrated disciplines of mechanical, electronic, computer and software

Mechanical Engineering

engineering. The course examines the following: mechatronics system design, sensors and transducers, actuating devices, signals systems and controls, real-time interfacing, hardware components and software with applications in mechatronics.

3 semester hours

MECHANICAL ENGINEERING 469

Thermal Fluid Systems Design

This course integrates thermodynamics, fluid mechanics and heat transfer through application to the design of various thermal systems comprised of several components requiring individual analyses. Emphasis on modeling, analysis, and design of engineering systems and components with state-of-the-art computer software. Undergraduate equivalent: MEEG 369.

3 semester hours

MECHANICAL ENGINEERING 470

Satellite Design and Technology

This course teaches the entire process of small satellite design, fabrication, integration and testing. The course covers the following topics: history of satellite design, satellite mission design; environment and hazards of space flight; orbits and astrodynamics (including spacecraft orbital elements and satellite tracking software); thermal control, materials and structures, power (including solar panels), propulsion, overview of payloads (communications and observation) data acquisition systems; ground station operation; NASA small satellite testing specifications and thermal, vacuum and vibration testing.

3 semester hours

MECHANICAL ENGINEERING 477

Additive Manufacturing

Additive manufacturing (AM) or 3D printing is a process of joining materials to make objects from 3D computer aided design (CAD) data. This course is designed to introduce students to the various AM processes, their theory and industrial practices, the latest developments and critical challenges in developing novel AM processes and applications. The expected outcome of this course is to train future engineers to innovate AM processes, select appropriate AM process for specific design-manufacturing applications. It includes a design project with 3D printing practices.

3 semester hours

MECHANICAL ENGINEERING 479

CNC Machine Control and Milling

This course introduces the CNC milling machine to students. Included are machine and shop safety, CNC coding, material selection, machine maintenance, proper use of the coolant systems and tools. Routine machine procedures and implementation are covered in preparation for several machine operations to develop student skills.

3 semester hours

MECHANICAL ENGINEERING 480

Machine Tool & Fixture Design

The manufacture of products and machinery often requires the use of specialized tooling and fixtures to support the manufacturing and associated processes. Tooling and fixtures supports a variety of processes in manufacturing to align parts for assembly, gauge machines to assure that the part meets its specifications, and hold machines to assure the safety of personnel using these machines. Aircraft manufacturing, for example, requires complex tooling and fixturing to hold all of the components of the airframe to very close tolerances, without deflection, and facilitate bringing large fuselage structures together accurately and efficiently. In this course, modern Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) system will be emphasized in the design of machine tooling and fixtures.

3 semester hours

MECHANICAL ENGINEERING 490

Intellectual Property and Technology

This course is designed for graduate students who have an undergraduate degree in Engineering, Computer Science, Mathematics, Physics, Biology, Industrial Design, etc. Students need not have any familiarity with United States law but they must be prepared to read extensively under the instructor's guidance, statutes and cases decided by the Federal and State courts.

3 semester hours

MECHANICAL ENGINEERING 500

Graduate Co-op/Internship in Mechanical Engineering

By arrangement.

1-3 semester hours

MECHANICAL ENGINEERING 505

Welding Engineering

Welding is the most common method of joining similar as well as dissimilar materials. It has been used in almost all manufactured products in various sections of industries, such as pipelines, pressure vessels, aircraft, automobiles, microelectronic devices, medical devices, etc. Welding is a complex engineering discipline that involves processes, material science, design, inspection and quality assurance. This course is intended to provide knowledge of welding engineering and its application in developing and designing safe and durable welded structures. Major welding processes and their technical background will be introduced. This course also addresses design fundamentals applicable to welded structures and modeling and simulation of welding processes.

3 semester hours

MECHANICAL ENGINEERING 507

Management of Engineering Projects

The course focuses on the methods used to transform an engineering idea into practice. The course follows taking engineering design through the stages of systems engineering and new product development. Topics include project initiation, cost estimating and budgets, proposal writing, scheduling and planning, project tracking, construction, and startup.

3 semester hours

MECHANICAL ENGINEERING 508(MEEG 508/BMEG 508)

Biomechanics

Biomechanics is the application of mechanical principles to living organisms that included bioengineering, research and analysis of mechanism in living organisms, and application of engineering principles to and from biological systems. This course can be carried forth on from the molecular level including collagen and elastin, all the way up to the tissue and organ level. Some simple applications of Newtonian mechanics can supply approximations on each level, but precise details demand the use of continuum mechanics.

3 semester hours

MECHANICAL ENGINEERING 510

Aircraft and Spacecraft Design

This course teaches the entire process of air flight vehicle and spacecraft conceptual design - from requirements definition to initial sizing, configuration layout, analysis, sizing, as well as the aeronautics and astronautics and environmental differences in which these vehicles travel. Conceptual similarities and differences between the two classes of vehicles are emphasized. The term project develops a prototype model vehicle implementation. Pre-

Mechanical Engineering

requisite: Mechanical Engineering 307

3 semester hours

MECHANICAL ENGINEERING 512

Computational Fluid Dynamics (CFD)

Computational fluid dynamics (CFD) is employed in a wide range of industries and disciplines, such as aerospace engineering, automotive engineering, biomedical science and engineering, chemical engineering, civil engineering, power engineering and sports engineering. Practicing engineers are constantly facing extreme challenges to solve complex fluid flow and heat transfer problems using commercial CFD software. To avoid flawed CFD simulation and results interpretation using commercial CFD packages by users with inadequate training, understanding the fundamental principles that underlie commercial CFD solvers can help the users to effectively harness the power of modern CFD for their research or design. This course is intended as an introduction to the scientific principles and practical engineering applications of CFD. It combines lectures on the CFD principles with projects of research or industrial applications. The emphasis of this course is not to teach the theory behind the CFD techniques, but to help the students apply the knowledge gained into practical use of commercial CFD software. Students will apply these skills to relevant engineering applications and gain an appreciation of the limitations and advantages of CFD modeling.

3 semester hours

MECHANICAL ENGINEERING 523

Advanced Composite Materials

Composite materials are ideal for structural applications where high strength-to-weight and stiffness-to-weight ratios are required. Aircraft and spacecraft are typical weight sensitive structures in which composite materials cost-effective. Usually, composite materials consist of two separate components, the matrix and the filler. The matrix is the component that holds the filler together and the filler makes the material strong. Most aerospace-application composites have strong, stiff long fibers as the fillers. The fiber makes the material behaves differently in different directions. This anisotropic behavior introduces complication in the analysis of the composite material. The course introduces the student to the basic concepts of the mechanical behavior of composite materials. Specific topics include the stress-strain relation for a lamina, micromechanics

of composite materials, bending, buckling, and vibration of composite plates with various laminations, fatigue, fracture mechanics, and joints of composite structures.

3 semester hours

MECHANICAL ENGINEERING 530 (MEEG 530/TCMG 530)

Foundations of Manufacturing Management

The objectives of the course are to understand and apply concepts and techniques in manufacturing management. The course includes the management of people (both traditional and high performance systems and teams), lean manufacturing techniques as used on the factory floor, and recent concepts such as Factory Physics. The course focuses on those issues that are important in supervising and managing a modern manufacturing operation.

3 semester hours

MECHANICAL ENGINEERING 538

Manufacturing and Service Engineering

The course covers service industry principles, manufacturing systems, facility layout, Factory Physics, Theory of Constraints, aspects of lean manufacturing, manufacturing for sustainability, and manufacturing safety as well as the management of people in service and manufacturing environments.

3 semester hours

MECHANICAL ENGINEERING 540

Simulation and Modeling Techniques

The purpose of this course is to provide an in depth coverage of the use of simulation and modeling as an analysis tool for the study of production and distribution processes. The course aims to develop a sense of critical thinking, learning and problem solving. Topics include: problem formulation, data collection and analysis, random variable generation, and statistical analysis of output. Utilizes a major simulation language, SIMAN.

3 semester hours

MECHANICAL ENGINEERING 546 (MEEG 546/TCMG 546)

Engineering Economics and Management

The course covers the concepts and methods that will assist engineering and technology managers and professionals to make alternative investment and funding decisions regarding projects, programs, products, business expansion and other alternatives using the financial calculations involving time value of money (IRR, ROI, NPV), uncertainty and risk. Topics include engineering and related financial evaluation techniques and formulas, choosing among alternatives, sensitivity analysis, economic analysis, opportunity costs,

depreciation, amortization, probability, cost estimating and systems and others.

3 semester hours

MECHANICAL ENGINEERING 550

Aerodynamics and Hydrodynamics in Sports

The course is intended to instruct the student in general topics in sports aerodynamics and hydrodynamics and sport specific advanced topics, develop the methods and means of formulating the mathematical models of physical systems, develop problem-solving skills, develop knowledge and skill in experimental and numerical methods in areas of aerodynamics and hydrodynamics-related mechanical engineering. Prerequisite Mechanical Engineering 307.

3 semester hours

MECHANICAL ENGINEERING 560(BMEG 560/MEEG 560)

Advanced Tissue Engineering

This course deals with specific elements of tissue engineering design and analysis. Approaches to the regeneration of three tissue systems will be analyzed utilizing engineering design. Concepts ranging from tissue development and dynamic growth conditions to ultimate tissue properties will be addressed. Students will be required to acquire understanding and expertise from analysis of primary literature and will complete group presentations on directed approaches to tissue design and engineering in three tissue systems. To ensure in-depth understanding of different aspects of tissue engineering the groups will be required to focus on one or two key aspects in each mini design module.

3 semester hours

MECHANICAL ENGINEERING 561 (MEEG 561/BMEG 561)
ELEG 561)

Instrumental Analysis of Nanomaterials

The course will give an over view on several important analytical tools for nano materials characterization. Mechanical, electrical and electronic and biological property testing of the nano materials such as carbon nanotubes, metal nanoparticles, quantum dots, nanowires conformable nanoelectronics materials, polymer nanoparticles and biomedical nanomaterials will be discussed. Process and product evaluation by physical, chemical and microscopic methods for materials in nano-regime will be highlighted. Modern materials science depends on the use of a battery of analytical methods carried normally in specialized laboratories. This course explains the fundamental principles associated with the various methods

Mechanical Engineering • Music Education

and familiarize the students with them, their range of applicability and reliability especially when materials are of nanoscopic dimension.

3 semester credits

MECHANICAL ENGINEERING 562 (MEEG 562/BMEG 562/
ELEG 562)

Nanofabrication with Soft Materials

This is an advanced level graduate course focusing on fabrication of soft materials. Nanofabrication processes and Nano system products will be discussed. Fundamentals associated with chips fabrications and linking them toward soft materials assembly will be detailed. Emerging nanotechnology based methods for soft and green electronics, mechanical parts, MEMS, PCBs will be covered. Gene chip, label free sensory assay using micro and Nano fluidics will be discussed. Transfer printing, DNA-protein interactions using the chip and several Nano-scale assemblies for soft materials fabrication will be discussed.

3 semester credits

MECHANICAL ENGINEERING 565(MEEG 565/BMEG 565)

Biomedical Materials and Engineering

This course introduces the students with the progress of biomaterials used in biomedical engineering. This course discusses modern advanced level biomaterials and their engineering principles associated with their biomedical use. Hip, knee Prostheses, implants, grafts, sutures, stents, catheters materials and their application in Biomedical Engineering are covered. Designed biomaterials such as silicones, polyurethane, Teflon, hydrogels, bio nanocomposites are detailed. Modern Biology and biomedical engineering such as protein absorption, bio specific medical materials, nonfouling materials, healing and foreign body reaction, controlled release etc. are discussed. Surface-immobilized biomolecules in patterned surfaces are explained with specific examples of the use of immobilized biomolecules, immobilized cell ligands, and immobilization methods. Recent advances in biomedical engineering from the perspectives of inkjet printing of cells and tissues for 3Dmedical textiles, nanofibers and films in biomedical engineering by electrostatic spinning, bio-inspired materials through layer by layer (LBL) assembly and biogels and advanced instrumentations in biomedical engineering are updated. Artificial red blood and skin substitutes, orthopedic biomaterials applications adhesives and sealants, diagnostics, biomedical sensors, extracorporeal artificial organs and ethical issues of biomedical engineering are discussed.

3 semester hours

MECHANICAL ENGINEERING 567 (MEEG 567/BMEG 567)

Physiological Fluid Mechanics

There is a great and vital difference between the transport processes in the human body from other engineering systems. A thorough understanding of physiological fluid mechanics is essential for innovation in medical assist and monitoring devices. Emphasis in this course is placed on assist devices, flow and thermal measurements, modeling for engineering application, and understanding application to biomedical problems including assist and monitoring devices.

3 semester hours

MECHANICAL ENGINEERING 572

Production Technology and Techniques

This course is to introduce up-to-date technology, techniques and systems of the global manufacturing industry. American manufacturing situation would be analyzed and Japanese manufacturing success is also explored. Comprehensive and readable description of manufacturing practice is researched.

3 semester hours

MECHANICAL ENGINEERING 573

Supply Chain Management

The goal of this course is to cover not only high-level supply chain strategy and concepts, but also to give students a solid understanding of the analytical tools, to understand supply chain design, planning, and operation driven the performance of a firm. It also conveys how supply chain drivers used on a conceptual level during supply chain design and operation leading to performance improvement.

3 semester hours

MECHANICAL ENGINEERING 574

Principles of Logistics

This course presents materials management, logistics theory and concepts in today's manufacturing and commercial environments. It integrates all of the functional areas of the business as well as incorporating logistics into corporate operation. They are examined in light of how they interrelate with other functions for the firms.

3 semester hours

MECHANICAL ENGINEERING 575

Manufacturing Strategy

This course provides the necessary strategic perspective for manufacturing managers' sights and sustaining manufacturing excellence in the competitive manufacturing environment. The strategic perspective of manufacturing forms

that the approach places these issues within the rightful context. It emphasizes the essential requirement to link with other functions in order to determine the best strategies for the business as a whole.

3 semester hours

MECHANICAL ENGINEERING 577

Lean Manufacturing

This course teaches the core methods and philosophy of lean manufacturing. Lean Manufacturing is historically based on the Toyota Production System used to significantly reduce the time, increase the reliability and reduce the cost, space requirements and inventory of a manufacturing environment. Each week a different aspect of the Lean Manufacturing will be taught. Each week, homework will focus on the implementation of these concepts into the term project designs.

3 semester hours

MECHANICAL ENGINEERING 580(TCMG/MEEG/ELEG 580,
DSNMG 580, MGMT 585, IDDSN 480)

New Product Commercialization

The objectives of the course are to understand and apply concepts and techniques of product commercialization. The course focuses on taking student created product concepts and having student teams drive the concepts to become actual products. Product design, prototype creation, market analysis, and financial analysis all come together within the student team to create a viable product. If ideas are worthy, teams may work with the University's CTech IncUBator to actually commercialize their products. Students are strongly encouraged to find a sponsor to actually commercialize their product ideas.

3 semester hours

MECHANICAL ENGINEERING 597 A

Master's Project

Lecture hours and topics to be arranged with Department Chair.

1 credit hour

MECHANICAL ENGINEERING 597 B

Master's Project

Lecture hours and topics to be arranged with Department Chair.

2 credit hours

MECHANICAL ENGINEERING 597 C

Master's Project (completion)

Lecture hours and topics to be arranged with Department Chair.

1 credit hour

MECHANICAL ENGINEERING 598

Music Education • Naturopathic Medicine

Thesis in Mechanical Engineering

Lecture hours, semester hours and topics to be arranged.

3-6 semester hours

MECHANICAL ENGINEERING 599

Independent Study in Mechanical Engineering

Independent study of advanced topics in Mechanical Engineering and submission of project report as required. Problem assignment to be arranged with and approved by the Department Chair.

3 semester hours

Music Education

MUSIC EDUCATION 435

Designing Curriculum and Instruction in Music

In this seminar, students will explore, and critically reflect upon, the relationships among music, philosophy, psychology, sociology, and education. Course content includes aesthetic and praxial philosophies of music and the arts (from ancient Greece to the present) as well as the psychology of music, the history and sociology of music, and influential practices and schools of thought within the profession (i. e. Dalcroze, Gordon, Kodaly, Orff). Students will explore the implications of course concepts for contemporary music education at all grade levels.

3 semester hours

MUSIC EDUCATION 511

Conducting

Students will acquire or refine further the fundamentals of an effective conducting technique, as well as rehearsal techniques and approaches to score study. 3 semester hours.

MUSIC EDUCATION 520

Group Instruction in Voice

Designed to provide the future school music teacher with improved proficiency as a singer, an understanding of vocal development, and the ability to develop students' singing voices at all grade levels.

3 semester hours.

MUSIC EDUCATION 521

Group Instruction in Strings

Designed to provide the future school music teacher with basic proficiency on string instruments, and the skills needed to teach string players at all grade levels.

3 semester hours.

MUSIC EDUCATION 523

Group Instruction in Woodwinds

Designed to provide the future school music teacher with basic proficiency on woodwind instruments, and the skills needed to teach woodwind players at all grade levels.

3 semester hours.

MUSIC EDUCATION 525

Group Instruction in Brass

Designed to provide the future school music teacher with basic proficiency on brass instruments, and the skills needed to teach brass players at all grade levels.

3 semester hours

MUSIC EDUCATION 526

Group Instruction in Percussion

Designed to provide the future school music teacher with basic proficiency on both pitched and unpitched percussion instruments, and the skills needed to teach percussionists at all grade levels.

3 semester hours

MUSIC EDUCATION 531

Literature and Techniques for Choral Music

A study of choral literature and rehearsal techniques appropriate for all grade levels.

3 semester hours

MUSIC EDUCATION 532

Literature and Techniques for Instrumental Music

Study of band, orchestra, and jazz ensemble literature with emphasis on rehearsal techniques and problems related to band and orchestra organization.

3 semester hours

MUSIC EDUCATION 541

Choral Practicum

Designed to give the music education student an opportunity to expand conducting technique, develop rehearsal techniques, and expand familiarity with standard choral literature. Opportunity will be provided to rehearse and conduct University choral ensembles.

1 semester hour

MUSIC EDUCATION 542

Instrumental Practicum

Designed to give the music education student an opportunity to expand conducting technique, develop rehearsal techniques, and expand familiarity with standard instrumental literature. Opportunity will be provided to rehearse and conduct University instrumental ensembles.

1 semester hour

MUSIC EDUCATION 543

Music in Elementary Schools

Musicianship skills, musical repertoire, pedagogy, and problem-solving for teaching music in prekindergarten through grade six.

3 semester hours

MUSIC EDUCATION 544

Music in Secondary Schools

Musicianship skills, musical repertoire, pedagogy, and problem-solving for teaching music in secondary schools.

3 semester hours

MUSIC EDUCATION 590

Resident Teaching in Music

Candidates for Connecticut certification as music teachers (PreK-12) undertake full time resident teaching in two schools under the supervision of a cooperating teacher and a University supervisor.

6 semester hours

MUSIC EDUCATION 599

Independent Study

Specialized advanced projects in subjects not covered by course offerings. Conferences with designated independent study advisor. Permission of program director required.

1-3 semester hours

Naturopathic Medicine

Basic Sciences

BASIC SCIENCES 511

Anatomy I

This course provides an in depth study of the macroscopic human anatomy and it covers the structure of the trunk and posterior neck. Clinical aspects of the vascular and neurological relationships of these regions will be emphasized.

4 lecture hours; 4 semester credits

BASIC SCIENCES 511 L

Anatomy I Lab

Anatomy laboratory to apply and reinforce information acquired in lecture. Exercises include the dissection of human cadavers and the study of bones, models and interactive multimedia software.

3 laboratory hours; 1.5 semester credits

BASIC SCIENCES 512

Histology

This course is the study of the normal micro-

Naturopathic Medicine

scopic anatomy of the body and its relationship to function at the cellular, tissue, and organ level. Included is the study of the microstructure of epithelia, connective tissue, muscle, nervous system, digestive system, circulatory, reproductive systems and the endocrine system. Where indicated, there is an integration of normal histology with physiological and clinical concepts.

2 lecture hours; 2 semester credits

BASIC SCIENCES 513

Embryology

This course covers the developmental process of humans from conception to birth including the formation of tissues, organs and systems of the body, integrating histology and anatomy.

1 lecture hour; 1 semester credit

BASIC SCIENCES 514

Biochemistry I

This course introduces the student to the fundamentals of protein structure, DNA replication, gene expression, transcription, and translation.

2 lecture hours; 2 semester credits

BASIC SCIENCES 515

Physiology I

This course is the study of physiology at the molecular and cellular level. Included is the study of the function of all major tissues and organ systems. Clinical concepts and correlations are discussed.

3 lecture hours; 3 semester credits

BASIC SCIENCES 521

Anatomy II

This course is a continuation of Anatomy I and it covers the structure of the head, anterior neck and extremities. Clinical aspects of the neurological and vascular relationships of these regions will be emphasized.. Prerequisites: NBS 511, NBS 511 L, NBS 512, NBS 513
4 lecture hours; 4 semester credits

BASIC SCIENCES 521 L

Anatomy II Lab

Anatomy laboratory to apply information acquired in lecture. Exercises include the dissection of human cadavers and the study of bones, models and interactive multimedia software. Prerequisites: NBS 511, NBS 511 L, NBS 512, NBS 513

3 laboratory hours; 1.5 semester credits

BASIC SCIENCES 522

Public Health I

Introduction to basic concepts of public health and epidemiology. Exploration of historical and contemporary cases in public health that

shape current understanding of population health and disease prevention. Methods of instruction include lecture, discussion, assigned reading, and group work. Laboratory portion will focus on active identification, measurement, and problem-solving of common issues in the surrounding community. Prerequisite: NPS 501

2 lecture hours; 2 semester credits.

BASIC SCIENCES 523

Public Health II

Exploration of themes in public health and epidemiology through the perspective of the naturopathic doctor in clinical practice. Connecting historical and contemporary problems in public health to clinical reasoning and naturopathic problem-solving. Methods of instruction include lecture, discussion, assigned reading, and group work. Laboratory portion will focus on active use of public health tools to solve problems in the surrounding community. Prerequisite: NBS 522

2 lecture hours; 2 semester credits

BASIC SCIENCES 524

Biochemistry II

This course is a continuation of NBS 514 Biochemistry I. Prerequisite: NBS 514, NBS 515

2 lecture hours; 2 semester credits

BASIC SCIENCES 525

Physiology II

This course is a study of the physiology at the organ and systems level and its interrelationships. Included is the study of the circulatory, endocrine, respiratory, renal, gastrointestinal, urogenital and nervous system. There is an integration of normal and pathological physiology and clinical concepts. Prerequisites: NBS 511, NBS 512, NBS 514, NBS 515.
3 lecture hours; 3 semester credits

BASIC SCIENCES 526

Neuroscience

This course covers the anatomy and physiology of the central nervous system and of the cranial nerves. The organization of cortical and subcortical motor and sensory systems including the basal ganglia, cerebellum, and the brainstem is covered as well as higher cortical functions and parcellation of function in the cerebral cortex. Prerequisites: NBS 511, NBS 512
2 lecture hours; 2 semester credits

BASIC SCIENCES 527

Microbiology I

Comprehensive overview of structure, function, growth, and genetics of microorganisms. Methods of instruction include lecture, discus-

sion, and assigned reading.

1.5 lecture hours; 1.5 semester credits

BASIC SCIENCES 528

Microbiology II

Bacteriology, virology, and mycology with an emphasis on modes of transmission, symptoms, diagnosis, treatment, and prevention of associated diseases. Methods of instruction include lecture, discussion, and assigned reading. Prerequisite: NBS 527

1.5 lecture hours; 1.5 semester credits

BASIC SCIENCES 529

Biomedical Integration Lab I

This course integrates the concepts of anatomy, physiology, biochemistry, and histology in a case-based format.

2 laboratory hours; 1 semester credit

BASIC SCIENCES 530

Biomedical Integration Lab II

This course is a continuation of NBS 529 Biomedical Integration Lab I. This course integrates the concepts of anatomy, physiology, biochemistry, and histology in a case-based format. Prerequisites: NBS 511, NBS 512, NBS 514, NBS 515, NBS 529.

2 laboratory hours; 1 semester credit

Botanical Medicine

BOTANICAL MEDICINE 511

Botanical Pharmacy Lab

This course introduces the history, identification, plant taxonomy, and nomenclature of medicinal plants used by the Naturopathic Physician, while providing practical experience in the preparation and extraction of botanical medicines.

1 laboratory hour; 0.5 semester credit

BOTANICAL MEDICINE 521

Phytopharmacognosy

This course is an overview of biochemical plant constituents, their interactions, energetics and synergy. Indications and contraindications of applications as well as drug/herb/supplement interactions are explored.

1.5 lecture hours; 1.5 semester credits

BOTANICAL MEDICINE 611

Botanical Medicine I

This course comprises a detailed survey of plants and plant preparations used in naturopathic practice, integrating traditional herbal knowledge with modern pharmacological research. The botany and ethnobotany, pharmacodynamics, phytochemistry, toxicology,

Naturopathic Medicine

and therapeutics of each plant are considered. Prerequisites: NBM 511, NBM 521, NBS 524, NBS 525.

2 lecture hours; 2 semester credits

BOTANICAL MEDICINE 621

Botanical Medicine II

This course is a continuation of Botanical Medicine I. Safe, effective, and appropriate prescription of plant medicines in patient care, based on both historical information and current scientific knowledge. Prerequisite: NBM 611.

2 lecture hours; 2 semester credits

BOTANICAL MEDICINE 711

Botanical Medicine III

This course is a continuation of Botanical Medicine II and includes advanced topics in botanical medicine, including *materia medica*, clinical applications, and current research. Prerequisite: NBM 621.

1.5 lecture hours; 1.5 semester credits

Clinical Nutrition

NUTRITION 611

Nutrition I

This course provides the foundation for therapeutic nutrition. It explores the biochemistry of the macronutrients as well as the known vitamins and minerals in detail. Toxicities, deficiencies, therapeutic uses and appropriate doses are examined. Dietary requirements for micro and macro nutrients are covered. Prerequisites: NBS524, NBS525

2 lecture hours; 2 semester credits

NUTRITION 621

Nutrition II

Nutrition II builds on the concepts learned in Nutrition I. Basic concepts of nutritional counseling, nutraceutical supplementation therapy, and therapeutic diet prescriptions are covered. Prerequisite: NNT611.

2 lecture hours; 2 semester credits

NUTRITION 711

Nutrition III

This course builds on previous nutrition courses, biochemistry, and research methods to focus on how to safely and effectively use vitamins, minerals, amino acids and other nutrients to improve health and address disease. Drug-nutrient interactions, nutrient-nutrient interactions, and food nutrient interactions are learned, as well as, how to apply naturopathic principles to therapeutic prescription of nutrients. Prerequisites: NNT621, NCS621

2 lecture hours; 2 semester credits

NUTRITION 721

Nutrition IV

This course builds on previous nutrition courses and focuses on the use of food as medicine and therapeutic diets and clinical nutrition. Students will be expected to synthesize knowledge from biochemistry and basic nutrition for application to clinical conditions and lifespan issues. This class also explores current research and trends in nutrition and socioeconomic and cultural aspects related to food and diet therapy. Prerequisite: NNT711.

1.5 lecture hours; 1.5 semester credits

Clinical Sciences

CLINICAL SCIENCES 512

Emergency Medicine I

Training and practice in identifying and responding to emergent situations. Includes CPR and AED training. Methods of instruction include assigned reading and experiential work.

1 laboratory hour, 0.5 semester credit.

CLINICAL SCIENCES 611

Introduction to Pathology

The pathology I lecture/lab series introduces the student to the fundamental basis of disease by studying pathophysiology on both cellular and genetic scales. Such studies include cell death and adaptation, inflammation, tissue regeneration and fibrosis, hemodynamic disorders, neoplasia, genetic diseases, and infectious disease. Each pathophysiologic process studied is placed in a clinical context by reviewing associated physical, radiographic, gross, and microscopic findings. Laboratory exercises require the student to apply information acquired in lecture to various clinical scenarios that are more frequently encountered in practice. The course concludes with the beginning of the study of diseases by organ system. Prerequisites: NBS 512, NBS 513, NBS 521, NBS 522, NBS 524, NBS 525, NBS 526

4 lecture hours, 1 laboratory hour, 4.5 semester credits

CLINICAL SCIENCES 612

Clinical, Physical and Laboratory Diagnosis I

This course applies the knowledge of pathology, physical exam, and laboratory testing to develop the skills necessary to determine appropriate diagnoses for patients manifesting the signs and symptoms of disease. The material is covered for each organ system with an emphasis on the integration of information

from multiple systems. Prerequisites: NBS 512, NBS 513, NBS 521, NBS 522, NBS 524, NBS 525, NBS 526

6 lecture hours, 6 semester credits

CLINICAL SCIENCES 612L

Physical Examination Lab I

This lab course focuses on the development of physical examination skills, including the competent use of medical instrumentation. Students become proficient in the comprehensive examination of each body system, including relevant specialized tests. Students develop medical reasoning and decision-making skills as they learn to differentiate between normal and abnormal physical findings and begin to assess which diagnostic procedures are appropriate based on the patient's history and medical concerns. This course is offered in conjunction with other courses in laboratory and clinical diagnosis, creating a solid foundation for the development of clinical judgment. Lab Fee. Co-requisite NCS 612

2 laboratory hours, 1 semester credit

CLINICAL SCIENCES 613L

Laboratory Diagnosis Lab I

In this course students will learn to perform in-office laboratory procedures including venipuncture. Co-requisite: NCS 612.

1 laboratory hour, 0.5 semester credit

CLINICAL SCIENCES 616

Immunology

This course covers specific and non-specific components of the human immune system and the role played by each in protection from microbes and non-living agents. Hypersensitivity reactions, immunodeficiency, autoimmune diseases, immune responses to cancer and psychoneuro-immunology are also discussed. Prerequisites: NBS 525, NBS 522

2 lecture hours; 2 semester credits

CLINICAL SCIENCES 617

Medical Genetics

This course covers the basis, the diagnosis, and the transmission of chromosomal and genetic disorders. The role of genetics and disease and the prenatal diagnosis of genetic and chromosomal abnormalities will be discussed. Special emphasis will be placed on preparing the students to recognize potential genetic abnormalities in a clinical setting, on methodologies to educate and inform patients on the genetic basis of their particular disease and on the resources available for additional testing, treatment or counseling. Prerequisites: NBS 515, NBS 521, NBS 525

Naturopathic Medicine

1 lecture hour; 1 semester credit

CLINICAL SCIENCES 619

Introduction to Diagnostic Imaging

This course covers radiographic anatomy and imaging techniques. A basic introduction to imaging, including radiography, computer tomography (CT), magnetic resonance imaging (MRI), ultrasound, and bone scan (scintigraphy) is discussed. The basic concepts of these techniques and their use in diagnosis are discussed. This course will also cover basic radiographic anatomy of the skeletal system and viscera. Co-requisites: NCS 611.

2 lecture hours; 2 semester credits

CLINICAL SCIENCES 621

Pathology and Diagnostic Imaging

This course continues the training of the fundamental basis of disease by studying pathophysiology on both organ system and multiorgan system scales. Organ systems studied include the cardiovascular, respiratory, urogenital, gastrointestinal, endocrine, musculoskeletal, and central nervous systems. Each pathophysiologic process studied is placed in a clinical context by reviewing associated physical, radiographic, gross, and microscopic findings. After completing this course curriculum, the student's comprehension of clinical textbooks should be self-perpetuating. Prerequisite: NCS 611

5.5 lecture hours; 5.5 semester credits

CLINICAL SCIENCES 622

Clinical, Physical and Laboratory Diagnosis II

Continued integration of pathology, physical exam, and laboratory testing for appropriate diagnosis and treatment. Prerequisite: NCS 612.

6 lecture hours; 6 semester credits

CLINICAL SCIENCES 622L

Physical Examination Lab II

This course is a continuation of Physical Examination I. Students will complete the process of learning physical examination skills for all systems of the human body. Pre-requisite: NCS-612L. Co-requisite NCS 622

2 laboratory hours; 1 semester credit

CLINICAL SCIENCES 623L

Laboratory Diagnosis Lab II

In this course, students learn all the steps of performing laboratory procedures: pre-test patient instruction, filling out requisition forms, specimen collection, venipuncture, capillary blood collection, saliva and urine collection, specimen handling and processing, and interpretation of results. Students will learn sources of laboratory errors and be able to

minimize error potential. They will also learn conventional and alternative labs for various organ systems. This course is a continuation of Laboratory Diagnosis Lab I. Pre-requisite: NCS-613L. Co-requisite: NCS 622.

1 laboratory hour; 0.5 semester credit

CLINICAL SCIENCES 714

Clinical Forum I

This course explores the clinical applications of the basic sciences and the clinical courses taught concurrently in this semester. Case presentations and clinical skills are emphasized through a problem based learning format using naturopathic principles as the foundation.

1 lecture hour, 1 laboratory hours 1.5 semester credits

CLINICAL SCIENCES 721

Pharmacology I

Dose response relationships, pharmacokinetics, pharmacodynamics, pharmacogenetics, drug toxicity, signal transduction and second messengers are covered. Drug interactions, indications/contraindications, food/herb interactions are discussed. The pharmacology and toxicology of the drugs of the nervous, respiratory and cardiovascular systems will be examined. Prerequisites: NBS 514, NBS 515, NBS 524, NBS 525

2 lecture hours; 2 semester credits

CLINICAL SCIENCES 723

Clinical Forum II

This course is a continuation of Clinical Forum I. It further explores the clinical applications of the basic sciences and the clinical courses taught concurrently in this semester. Case presentations and clinical skills are emphasized through a problem based learning format using naturopathic principles as the foundation.

2 laboratory hours; 1 semester credit

CLINICAL SCIENCES 724

Emergency Medicine II

This course focuses on identification of emergency situations and procedures, particularly as they present in ambulatory care and general practice. The course includes discussion, demonstration, and practice of treating patients within the scope of practice. Quick response and decision-making process for referral of the patient for treatment.

2 lab hours; 1 semester credit

CLINICAL SCIENCES 811

Pharmacology II

This course, a continuation from Pharmacology I, examines the most common pharmaceutical agents in clinical practice and the ones most

likely to be encountered in a clinical setting in general practice. It reviews antibiotics, antimicrobials, both steroid and non-steroidal anti-inflammatory agents, chemotherapeutic agents, hormones, and commonly prescribed medications. Prerequisite: NCS 721.

2 lecture hours; 2 semester credits

CLINICAL SCIENCES 812

Environmental Medicine

This course focuses on the health effects of pollutants in the home, workplace as well as in the air, water, earth, and food supply. Diagnosis and treatment of health conditions caused by these pollutants is covered with special emphasis on treating the chemically sensitive patient or those with environmental illness. Prerequisites: NCS 621, NCS 622

1 lecture hour; 1 semester credit

Naturopathic Practice/Organ Systems

NATUROPATHIC PRACTICE 621

Introduction to Biochemical Individuality

This survey course introduces the naturopathic student to the basics of personalized medicine and nutrigenomics.

1 lecture hour; 1 semester credit

NATUROPATHIC PRACTICE 712

Generative Medicine I (Elective)

This course examines the basics of complexity theory and systems biology as applied to naturopathic strategies, in particular the vis medicatrix naturae. Students who wish to qualify for senior shift positions on the Center of Excellence in Generative Medicine (COEGM) Personalized Medicine shifts will be required to take Generative Medicine I. Students who wish to qualify (upon licensure) to sit for the board certification (diplomate) in Personalized Medicine through the AANP affiliated Institute for Naturopathic Generative Medicine are required to take Generative Medicine I and Generative Medicine II. Students who wish to qualify for post-graduate residencies at the COEGM are required to take Generative Medicine I and Generative Medicine II. Pathfinder Scholars are required to take Generative Medicine I and Generative Medicine II.

1 lecture hour; 1 semester credit

NATUROPATHIC PRACTICE 713

Gastroenterology

This course examines the digestive tract and associated organs, and disorders associated with it. Physical examination, imaging, and

Naturopathic Medicine

laboratory techniques necessary to understand and diagnose these disorders are discussed along with their naturopathic treatment. Prerequisites: NCS 621, NCS 622, NCS 623L.

2 lecture hours; 2 semester credits

NATUROPATHIC PRACTICE 714

Naturopathic OB/Gyn

This course synthesizes concepts of female anatomy, physiology, and pathophysiology and applies them to clinical conditions. Physical exam, laboratory and diagnostic evaluation, and clinical diagnosis are presented for major clinical conditions. Students will be prepared to discuss normal preconception, pregnancy, and postpartum-related concerns with their patients and to competently attend unplanned, emergent, but normal deliveries. Scope of practice, consultation, and referral requirements will be discussed. Naturopathic treatment of commonly encountered gynecological and obstetrical issues is included. Prerequisites: NCS 621, NCS 622.

3 lecture hours; 3 semester credits

NATUROPATHIC PRACTICE 721

Pediatrics

Upon completion of this course the student will be able to recognize and diagnose the conditions of the pediatric patient encountered in a general naturopathic practice. Naturopathic therapy and management of these disorders are discussed along with the appropriate use of referral. Prerequisites: NCS 621, NCS 622, NCS 623L.

2 lecture hours; 2 semester credits

NATUROPATHIC PRACTICE 722

Cardiology

This course covers the pathophysiology, advanced diagnosis, and treatment of cardiovascular diseases. Both conventional and naturopathic therapies are covered. Upon completion students will be able to apply this knowledge to the care of patients with cardiac disease and know when to refer for specialized diagnosis and treatment. Prerequisites: NCS 621, NCS 622, NCS 623L.

2 lecture hours; 2 semester credits

NATUROPATHIC PRACTICE 725

Gynecology Lab

Physical examination practicum relevant to gynecology, including breast and pelvic exams. Prerequisite: NNP 714.

1 laboratory hour; 0.5 semester credit

NATUROPATHIC PRACTICE 811

Eye, Ear, Nose and Throat

The diagnosis and naturopathic and traditional treatment of diseases of the eyes, ears, nose, and throat are discussed. Upon completion of this course students will be able to diagnose common and important diseases, know when to refer patients for specialty diagnosis and treatment, and will be able to apply naturopathic principles and modalities in case management. Prerequisites: NCS 621, NCS 622, NCS 623L.

0.5 lecture hour; 0.5 laboratory hour; 0.75 semester credit

NATUROPATHIC PRACTICE 828

Generative Medicine II (Elective)

This survey course introduces the naturopathic student to the basics of generative medicine as envisioned and practiced at the Center of Excellence in Generative Medicine. Topics include: Advanced network theory, generative molecular biology, computational medicine, information theory and bioinformatics. Students who wish to qualify for senior shift positions on the Center of Excellence in Generative Medicine (COEGM) Personalized Medicine shifts will be required to take Generative Medicine I. Students who wish to qualify (upon licensure) to sit for the board certification (diplomate) in Personalized Medicine through the AANP affiliated Institute for Naturopathic Generative Medicine are required to take Generative Medicine I and Generative Medicine II. Students who wish to qualify for post-graduate residencies at the COEGM are required to take Generative Medicine I and Generative Medicine II. Pathfinder Scholars are required to take Generative Medicine I and Generative Medicine II. Prerequisite: NNP 712

1 lecture hour; 1 semester credit

NATUROPATHIC PRACTICE 812

Endocrinology

This course covers the diagnosis and naturopathic and traditional management of diseases and imbalances of the endocrine system. Upon completion, students will be able to recognize and diagnose hormonal disorders, know when to refer patients for specialty diagnosis and treatment, and be able to apply naturopathic principles and modalities in endocrine case management. Prerequisites: NCS 621, NCS 622, NCS 623L.

2 lecture hours; 2 semester credits

NATUROPATHIC PRACTICE 813

Neurology

This course constitutes a review of the neurological exam with emphasis on diagnosis of neurological conditions. It will include naturopathic treatment and management of diseases of the nervous system as they are discussed. Prerequisites: NBS 526, NCS 621, NCS 622, NCS 623L.

1.5 lecture hours; 1.5 semester credits

NATUROPATHIC PRACTICE 814

Urology/Proctology

This course covers disorders of the urinary system, male genitalia, and the anal-rectal region. Diagnosis and conventional and naturopathic management of cases are covered. Prerequisites: NCS 621, NCS 622, NCS 623L.

1 lecture hour; 1 semester credit

NATUROPATHIC PRACTICE 821

Geriatrics

This course covers the aging process and the new field of anti-aging medicine. Conventional geriatrics topics are discussed as well as topics on geriatric illnesses and their naturopathic interventions. Prerequisites: NCS 621, NCS 622, NCS 623L

1 lecture hour; 1 semester credit

NATUROPATHIC PRACTICE 823

Oncology

This course covers the diagnostic, prognostic and preventative and epidemiological information for common cancers. Various theories of cancer are discussed as well as both traditional and non-traditional treatments. Case studies are used to help cement the concepts covered in relation to various malignancies. At the conclusion of this course students will be prepared to screen for common cancers and co-manage patients with cancer. Prerequisites: NCS 621, NCS 622, NCS 623L.

1.5 lecture hours; 1.5 semester credits

NATUROPATHIC PRACTICE 824

Dermatology

The diagnosis and treatment of diseases which manifest in skin lesions are discussed. Naturopathic treatment and prevention are taught. Prerequisites: NCS 621, NCS 622, NCS 623L.

1.5 lecture hours; 1.5 semester credits

NATUROPATHIC PRACTICE 825

Minor Office Procedures

Minor surgical procedures as defined by the scope of practice for naturopathic physicians are taught. The course covers common minor surgery office procedures such as suturing techniques, wound care, local anesthesia, and

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bandaging techniques. Topics also include recognizing and treating infection, burns, and conditions requiring referral for surgical intervention. Prerequisite: NCS 622.

1 lecture hour; 1 laboratory hour; 1.5 semester credits

PRINCIPLES AND PRACTICE 826

Rheumatology

This course explores the structure and function of the musculoskeletal, connective tissue, lymphatic, vascular, and immunologic systems as they pertain to rheumatologic health and disease. Emphasis is placed on prevention, screening, diagnosis, and treatment of rheumatologic symptoms and conditions. Prerequisites: NCS 621, NCS 622, NCS 623L.

1 lecture hour; 1 semester credit

Naturopathic Principles and Practice

PRINCIPLES AND PRACTICE 512

History and Philosophy of Naturopathic Medicine

This course will explore the philosophical foundations of naturopathic medicine, which form the basis for therapeutic intervention. Vitalistic medicine in the United States of America as an influence on the creation of the naturopathic profession will be discussed. The overall emphasis of the course will be on the philosophical principles that define the empirical "natural laws" which describe the phenomenon of healing. The relationship of naturopathic principles to medical science is included. This course will also examine the historical, socioeconomic, and political foundations of Naturopathic Medicine and its eclectic blend of healing arts and fundamental roots; Botanical Medicine, Nature Cure, Physical medicine, Hydrotherapy, Homeopathy, Energy Medicine, and Ancient Healing systems from around the globe.

2.5 lecture hours; 2.5 semester credits

PRINCIPLES AND PRACTICE 513

Medical Ethics

An introduction to the principles of medical ethics. Provides a basis for the discussion of therapeutic choices and the role of the doctor in difficult medical decisions that will be reinforced throughout clinical studies. Learning strategies include lecture, discussion, assigned reading and written reflection. Prerequisites: None. Required for: Public Health I, Psychological Assessment, Clinical Practicum I.

0.5 lecture hour; 0.5 semester credit

PRINCIPLES AND PRACTICE 711

Practice Management I

Students are taught procedures for the establishment and operation of a private practice. Practical aspects of small business management are discussed. Students are encouraged to begin thinking about their personal career path in naturopathic medicine. Prerequisites: NCS 611, NCS 612, NCS 613, NCS 621, NCS 622, NCS 623.

1 lecture hour; 1 semester credit

PRINCIPLES AND PRACTICE 722

Philosophy of Naturopathic Medicine II

Nature acts powerfully through healing mechanisms in the body and mind to maintain and restore health. Students will receive a more in-depth utilization of naturopathic methods and medicinal substances, which work in harmony with the human system, thus facilitating long-lasting health and recovery. In addition to employing various natural medicines, students will gain an important perspective of the vital force and its role in the healing process when used in conjunction with naturopathic principles. Prerequisite: NPP 512.

1 lecture hour; 1 semester credit

PRINCIPLES AND PRACTICE 813

Fundamentals of Entrepreneurship

This course will begin by addressing the concepts of entrepreneurship and developing a new venture. The course will address fundamentals such as the types of financing important to the new venture and the finances of its creator, competitive positioning, branding and imaging, stationery, marketing, protecting intellectual property, the legal entity structure, the website development components and cost, insurance, labor and sales and use tax along with basic HR requirements. The class will learn how to source capital and then further how to pitch to capital providers. Each student will develop a minimum viable product by producing a business model canvas.

3 lecture hours; 3 semester credits

PRINCIPLES AND PRACTICE 821

Medical Jurisprudence

The course covers the basics of law as it applies to medical practice, informed consent, confidentiality, and professional liability. Naturopathic practice in licensed and unlicensed states will be discussed, as well as an in depth review of the practice act in Connecticut. The ethical practice of naturopathic medicine will also be discussed. Prerequisites: NCS 621, NCS

622, NCS 623.

0.5 lecture hour; 0.5 semester credit

PRINCIPLES AND PRACTICE 822

Practice Management II

This course introduces the student to the business procedures and practice used in the successful operating of a naturopathic practice. Prerequisite: NPP 711.

2 lecture hours; 2 semester credits

PRINCIPLES AND PRACTICE 823

Applied Medical Ethics

Medical ethics with an emphasis on the unique problems faced by the naturopathic physician. Topics include patient autonomy and choice, selection of appropriate therapies, and coordination of patient care with practitioners from other disciplines. Learning strategies include lecture, discussion, group work, assigned reading, and written reflection. Prerequisites: NPP 513, completion of basic science classes and passed Clinic Promotion Exam.

0.5 lecture hour; 0.5 credit

Homeopathic Medicine

HOMEOPATHIC MEDICINE 621

Homeopathy I

This course lays the foundation of the basic laws and principles of Homeopathy upon which future courses will build. The principles as set forth by Hahnemann in his Organon are the bases of the course. The student will also become thoroughly acquainted with the use of Kent's repertory.

2 lecture hours; 2 semester credits

HOMEOPATHIC MEDICINE 711

Homeopathy II

This course will continue the examination of Homeopathy, with emphasis on the concept of acute prescribing, case taking, and analysis. Students will continue their discussion and understanding of the drug pictures of the remedies for acute complaints commonly seen in a general or family practice. Prerequisite: NHM 621

2 lecture hours; 2 semester credits

HOMEOPATHIC MEDICINE 721

Homeopathy III

Students will continue their study of the hierarchy of symptoms as they are expressed in the repertory and will begin to recognize the keynote symptoms of polycrest remedies and be able to distinguish among them. Computer repertorization is used throughout to illustrate the relative values of possible rubrics to include in a given case. Prerequisites: NHM 621,

Nutrition

NHM 711

2 lecture hours; 2 semester credits

HOMEOPATHIC MEDICINE 821

Homeopathy IV (Elective)

In this seminar-style course, students develop a deeper understanding of homeopathic case-taking, analysis, prescribing and long-term case management strategies. Casework using video recordings, group discussions and computer repertorizations are employed to deepen the student's understanding of case analysis and management of chronic states. Students prepare to incorporate classical homeopathic treatment into their private practices. Prerequisites: NHM 621, NHM 711, NHM 721
2 lecture hours; 2 semester credits

Traditional Chinese Medicine

NATUROPATHIC TRADITIONAL CHINESE MEDICINE 511

NTCM I

The course sequence gives students the tools to integrate the basic philosophical concepts of TCM into naturopathic practice. In this introductory course, students will begin to apply TCM principles and medical philosophy to the human body. They will develop a basic understanding of the relationships between the TCM zangfu ("organs"), and of TCM modes of diagnosis, as found in the "Four Examinations" and "Eight Principles", including pulse, tongue, facial, palpation, and questioning techniques.
2 lecture hours; 2 semester credits

NATUROPATHIC TRADITIONAL CHINESE MEDICINE 521

NTCM II

Students begin the study and practice of basic acupuncture and moxibustion techniques. Students will learn to identify meridians and acupuncture points. The basic tenets of clean needle technique and safe needle insertion as they relate to acupuncture will be covered. Students will learn and practice basic acupuncture protocols for common complaints. Prerequisite: NTCM 511.
2 lecture hours; 2 semester credits

Further study in TCM may be taken through the Acupuncture Institute. Refer to the catalog section on Acupuncture.

Physical Medicine

PHYSICAL MEDICINE 522

Living Anatomy: Palpation

This laboratory course introduces how to locate and palpate the bony landmarks, attach-

ments/origins, and the superficial musculature of the entire body. It is an adjunct to the Anatomy courses and a precursor to the courses in physical medicine.

1.5 laboratory hours; 0.75 semester credits

PHYSICAL MEDICINE 523

Hydrotherapy

This course introduces students to the physiological principles and the clinical application of the therapeutic use of water, heat, and cold. In the laboratory portion of this course, students learn procedures by administering and receiving treatments and determining appropriate applications. Prerequisite: NBS 511.

1 lecture hour, 1.5 laboratory hours; 1.75 semester credits

PHYSICAL MEDICINE 612

Physiological Therapeutics

This course covers the physical, clinical, and contraindications of the use of heat, cold, high-volt galvanism, interferential current, low-volt galvanism, ultrasound, electrical muscle stimulation, diathermy, and paraffin. Upon completion, students will be able to use these modalities both individually and in conjunction with other therapies in the treatment of musculoskeletal and other disorders. Prerequisites: NBS 521, NBS 525.

1 lecture hour; 1 semester credit

PHYSICAL MEDICINE 612L

Physiological Therapeutics Lab

Laboratory component of NPM 612 Physiological Therapeutics. Co-requisite: NPM 612. Prerequisites: NBS 521, NBS 525.
2 laboratory hours; 1 semester credits

PHYSICAL MEDICINE 621

Orthopedic Assessment

Students in this course will learn to diagnose orthopedic injuries and diseases. Those conditions that can be safely treated in a general practice setting are distinguished from those requiring referral to a specialist. Prerequisites: NBS 511, NBS 515, NBS 521, NBS 525.

1 lecture hour, 1 laboratory hour; 1.5 semester credits

PHYSICAL MEDICINE 711

Naturopathic Manipulative Therapeutics I

This course is a basic presentation of the principles and practices of manipulation of the axial spine. Lecture includes discussion of the neurological rationale for manipulation, as well as various methods of manipulation (both force and non-force techniques). Soft-tissue techniques such as Post-Isometric Relaxation Technique and Positional Release Technique

will be discussed and taught in lab. Palpation, neurological and orthopedic evaluation will be performed prior to any manipulative procedures. Prerequisite: NPM 621

1 lecture hours, 3 laboratory hours; 2.5 semester credits

PHYSICAL MEDICINE 721

Naturopathic Manipulative Therapeutics II

This course will extend NPM711 by introducing principles and biomechanics of extremities as well as gait analysis. Non-force techniques such as Sacral-Occipital Technique (SOT) and Cranial-Sacral Techniques will be reviewed. Prerequisite: NPM 711

1 lecture hour, 3 laboratory hours; 2.5 semester credits

PHYSICAL MEDICINE 821

Therapeutic Exercise/Sports Medicine

This course provides an overview of exercise as a preventative and therapeutic tool. Students will learn to perform a fitness assessment and describe and monitor exercise programs for persons with a variety of common disease conditions as well as treatments for sports injuries. Prerequisite: NPM 721
2 lecture hours; 2 semester credits

Psychology

PSYCHOLOGY 511

Physician Self-Care

This course highlights the importance of self-reflection and self-care for those training to be Naturopathic Physicians. Students will explore the multidimensional aspects of health, the impact of stress on health, and effective strategies and tools for managing stress and attending to one's health in a truly holistic manner. Introspective work and in-class discussions and exercises will be done.

1 laboratory hour; 0.5 semester credit

PSYCHOLOGY 501

Counseling Skills I

This course provides an introduction to developing the naturopathic practitioner/patient relationship via the development of communication skills. Professional issues such as ethics, confidentiality, trust, appropriate boundaries, and relationship building are included. Specific communication skills related to effective patient interviewing are practiced experimentally using exercises in class. Students practice the skills of attending, empathy, active listening, and focusing on important client concerns to

Naturopathic Medicine

identify and begin collaborative goal setting.
1 lecture hour; 1 laboratory hour; 1.5 semester credits

PSYCHOLOGY 621

Psychological Assessment

This course covers the diagnosis of psychiatric disorders according to the Diagnostic and Statistical Manual of Mental Disorders. Included is the development of the DSM, psychological assessment considerations, referral options, and treatment modalities including psychotherapeutic, psychotropic, and alternative interventions. Special attention is paid to addictions and eating disorders. Prerequisite: NPS 501.

2 lecture hours; 2 semester credits

PSYCHOLOGY 711

Counseling Skills II

This course introduces current holistic counseling theories and interventions through lectures, assignments, readings, and experimental exercises. Counseling skills with reference to actual cases are explored using problem-based learning methods. Students will demonstrate basic interviewing techniques and strategies for engaging and motivating the client through reciprocal dialogue during the developmental stages of a counseling relationship. This course emphasizes the basic counseling skills required of a physician in daily practice, in addition to the special circumstances of bereavement, crisis management, and chronic and terminal illness. Prerequisites: NPS 501.

1 lecture hour, 1 laboratory hour; 1.5 semester credits

PSYCHOLOGY 813

Mind-Body Medicine

This course covers key issues in the relationship between a physician and client. It includes an examination of ethical issues, confidentiality, and development of trust, setting appropriate boundaries, and dealing with patients with a variety of conditions. Prerequisites: NPS 501, NPS 621, NPS 711.

1 lecture hour; 1 semester credit

Research

RESEARCH 511

Research

This course introduces students to biomedical research principles, epidemiology, biostatistics, and accessing medical literature with an emphasis on complementary and alternative medicine research.

2 lecture hours; 2 semester credits

RESEARCH 711

Thesis I

In this course the student performs a literature search in a naturopathic area of interest and presents a proposal for a Senior Paper (literature survey only) or a Senior Research Paper (also includes original research). Each student chooses a faculty advisor for their thesis. Original research must be approved by the Research Committee. Prerequisite: NRS 511.

0.5 lecture hour; 0.5 semester credit

RESEARCH 811

Thesis II

With the advice and guidance of the thesis advisor, the student prepares and submits a complete first draft of a Senior Paper in conformity with the guidelines adopted by the Research Committee. Prerequisite: NRS 711.

0.5 lecture hour; 0.5 semester credit

RESEARCH 822

Thesis III

With the advice and guidance of the thesis advisor, the student makes revisions to the first draft and submits a final version of the Senior Paper. Students may also be required to present their papers before a committee of faculty advisors. Prerequisite: NRS 811.

0.5 lecture hour; 0.5 semester credit

Clinical Education

CLINICAL EDUCATION 612

Introduction to Clinic

This course introduces students to the clinical education component of the program. Clinical education requirements, policies, and protocols, are outlined. Students are introduced to hands-on patient care skills, such as taking a brief history and assessing vital signs. Other topics include privacy and security of patient information (HIPAA), cultural competence, doctor/patient communication skills, and professionalism.

0.5 lecture hour; 0.5 semester credit

CLINICAL EDUCATION 631

Clinical Practicum I

Through clinical observation and hands-on experience, this course prepares students for their clinical education. Students will shadow staff and physicians in the clinical environment, and when directed will assist with tasks and patient care. Students will gain hands on experience with electronic medical records (EMR), will be required to take vitals, and as-

sist in hydrotherapy treatments. Prerequisite: NCE-612

1 laboratory hour; 0.5 semester credit

CLINICAL EDUCATION 641

Clinical Practicum II

A continuation of Clinical Practicum I. Through clinical observation and hands-on experience, this course prepares students for their clinical education. Students will shadow staff and physicians in the clinical environment, and when directed will assist with tasks and patient care. Students will gain hands on experience with electronic medical records (EMR), will be required to take vitals, and assist in hydrotherapy treatments. Prerequisite: NCE-631

1.5 laboratory hours; 0.75 semester credit

CLINICAL EDUCATION 821

Practicum in IV Therapy (Elective)

The student will learn the indications and contraindications for various IV therapies in the naturopathic practice. Preparation and administration (including osmolality) of various IV solutions using proper aseptic techniques will be emphasized. Lectures will be accompanied by hands-on in-class experience. Prerequisites: NCS 623L, must be eligible for clinic entry.

0.5 lecture hour, 1 laboratory hour; 1 semester credit

CLINICAL EDUCATION 861

Externship (Elective)

Students gain hands-on clinical experience in working with patients under the supervision of a naturopathic physician outside of UB Clinics. The externship experience mimics that of the UB Clinics experience, in that students are actively involved in patient care, participating in the diagnosis and treatment of patients. Pre-requisites: Completion of all Preceptorship hours, and a minimum of 100 hours clinical experience as a Primary Student Clinician in the UB Clinics and Community Clinics.

Types of Clinical Rotations Offered

700-LEVEL CLINICAL ROTATIONS

As Secondary Student Clinicians, students begin to gain practical clinical skills by working under the supervision of licensed health care providers. Students learn primarily through observation and are given limited responsibility in the clinical setting during the fall semester. Performance objectives are focused on basic clinical procedures. In the spring semester of their third year, Secondary Student Clinicians

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continue the clinical training begun in the fall, which includes the ongoing development of clinical skills and case management under the supervision of licensed physicians. Students gradually assume increased responsibility.

800-LEVEL CLINICAL ROTATIONS

As Primary Student Clinicians, students assume the role of primary care giver under the direct supervision of a licensed physician. Physical examination, diagnostic assessment, and treatment skills are honed while specific performance objectives of clinical training are met. In this final semester of clinical training, students examine, diagnose, and treat patients in preparation for providing primary care as a naturopathic physician.

CLINICAL EDUCATION 635

Hydrotherapy Shift

Second year students begin to gain practical clinical skills in the area of hydrotherapy by working under the supervision of licensed naturopathic physician. Hydrotherapy techniques include constitutional hydrotherapy, infrared sauna, wet sheet pack, Russian steam, fomentations, contrast baths, peat baths, and paraffin baths. Performance objectives are focused on basic hydrotherapy treatments and case management. Prerequisites: NPM 523; successful completion of all Year 1 courses.

72 clinic hours, 0.67 semester credit

CLINICAL EDUCATION 700/800

General Medicine

Students begin to gain practical clinical skills by working under the supervision of licensed health care providers. Students learn through observation with progressively increasing responsibility in the clinical setting. Students perform physical exams, diagnostic assessments, and develop treatment programs for patients with a wide variety of health conditions.

72 clinic hours, 2 semester credits

CLINICAL EDUCATION 701/801

Pediatrics

Students perform physical exams, diagnostic assessments and develop treatment programs for pediatric patients under the supervision of licensed health care providers, integrating biomedical science with natural therapeutics.

72 clinic hours, 2 semester credits

CLINICAL EDUCATION 702/802

Integrative Oncology

Students learn to approach oncology cases

by performing a review of biomedical findings and integrating best practices in natural therapeutics. Students co-manage patients' healthcare with their specialists to address their cancer diagnosis and to minimize adverse effects that may arise from their treatment.

72 clinic hours, 2 semester credits

CLINICAL EDUCATION 703/803

Generative Medicine

Students learn how to use the methods of network science to understand the complex relationships between individuals, their genetics, the environment, and the molecular basis of disease to develop treatment strategies aimed at optimizing health for each individual patient, utilizing specialized computer tools and a comprehensive knowledge of genetics, pathology, and biochemistry.

72 clinic hours, 2 semester credits

CLINICAL EDUCATION 705/805

Mind-Body Medicine

Under the supervision of licensed health care providers, students develop trust, set appropriate boundaries, and using counseling tools, they work with patients by addressing their social and emotional concerns.

72 clinic hours, 2 semester credits

CLINICAL EDUCATION 706/806

Physical Medicine

Students perform physical exams, diagnostic assessments, and develop and apply treatment approaches using a variety of therapeutic tools for patients with musculoskeletal concerns.

72 clinic hours, 2 semester credits

CLINICAL EDUCATION 707/807

Homeopathy

Students gain practical experience working with patients and using repertorization software and texts, homeopathic Materia Medica, and practical application for individuals with acute, chronic, and constitutional concerns.

72 clinic hours, 2 semester credits

CLINICAL EDUCATION 708/808

Community Medicine

Students perform physical exams, diagnostic assessments, and develop and apply treatment approaches in a variety of community settings.

72 clinic hours, 2 semester credits

CLINICAL EDUCATION 709/809

Women's Health

Students perform physical exams, diagnostic assessments and develop and apply treatment approaches directed at health concerns related

to women's health.

72 clinic hours, 2 semester credits

CLINICAL EDUCATION 714

Clinic Mentoring

Supervising Clinicians model the process of case-taking and management as students develop physical exam and diagnostic assessment skills, as well as treatment approaches through their increasingly active participation in the patient visit.

72 clinic hours, 2 semester credits

CLINICAL EDUCATION 888

Integrative Medicine

This rotation is a collaborative effort of the College of Naturopathic Medicine, the College of Chiropractic, the Acupuncture Institute, and the Fones School of Dental Hygiene. The focus of this rotation is on prevention and improving patients' health globally. Student Clinicians/ Supervisors from all four schools interview the patient and write case study reports after each encounter, with the inclusion of evidence-informed clinical practice information in the global assessment.

72 clinic hours, 2 semester credits

Nursing

NURS 540

Theory and Evidenced Based Practice

Scholarly inquiry begins in analyzing the nature and purpose of theoretical thinking and critical evaluation of research. The review of research methodologies, hypothesis, research questions and research design, in the persistent search for truth, is emphasized throughout the course. Exercises in the literature review for evidenced-based practice and decision-making are implemented to investigate clinical and educational best practice.

3 credits

NURS 575

Quality Safety & Policy

This course examines health care policy and politics as it relates to the quality and safety of nursing practice. Historical, ethical, political and economic factors are discussed and the nurse's responsibility and role in health care policy is explored. A project facilitates application of principles addressed in the course.

3 credits

NURS 590

Nutrition

Nursing Informatics

Healthcare policy and ethical issues examined from the perspectives of leaders and educators driven to utilize big data to extract best practice care models. Legal, ethical and pragmatic methods of choosing technologies and information-based software are incorporated in order to provide efficiency, confidentiality, and efficient ethical decision-making.

3 credits

NURS 550

Advanced Pharmacology

This course is designed to advance the student's knowledge of pharmacokinetics, pharmacodynamics, pharmacogenomics, and pharmacotherapeutics, in the management of health and disease states across the lifespan.

3 credits

NURS 560

Advanced Health Assessment and Advanced Physiology

This course provides students with advanced anatomy, physiology, and pathophysiology of systems in relation to an individual's health across the lifespan. The application of this knowledge is combined with the acquisition of advanced health assessment and clinical reasoning skills. Students apply the diagnostic (clinical) reasoning process to develop a comprehensive plan of care for patients in a variety of settings throughout the lifespan. Emphasis is placed on health promotion, disease prevention, and risk assessment.

3 credits

NURS 602

Curriculum Development and Design

This course examines concepts for teaching in nursing including learning, teaching methods and technology, and teaching in the classroom, online environment, simulation, learning laboratory, and clinical setting. It also explores interprofessional education including preparing students for interprofessional global work, curriculum development, evaluation, and other components of the teacher's role.

3 credits

NURS 604

Teaching, Assessment and Evaluation of Outcomes

This course provides a background on effective teaching strategies, including activities that promote student learning and student engagement. Students describe and map assessment

and evaluation of outcomes that foster student learning of educational objectives. Various approaches are offered for evaluating and interpreting teaching effectiveness and achievement of outcomes, including student ratings, self-reviews, peer evaluations, and objective criteria, such as student performances.

3 credits

NURS 606

Resource Management and Finance

This course provides an overview to the process of budgeting in the Health Care setting. This course will explore the building blocks that are utilized to secure sound budget projections. This course will also review and explore the Health Care System and the multiple payers and their impact to on the ability to utilize information systems in the development and ongoing analysis of financial data. Students are expected to create a business proposal including a budget.

3 credits

NURS 608

Organizational Leadership

The student will explore the universal principles of leadership and management that form the basis of change theory in healthcare and academic environments. The student will acquire knowledge through the exploration (study) of theory and change processes for contemporary healthcare and healthcare education. Evolving roles of managers, leaders, and educators are analyzed with a focus on leading and managing transitions, encouraging teamwork, fiscal management, and planning.

3 credits

NURS 610

Education Practicum

The practicum course will integrate all education courses in a practicum that is student-driven, focused on problem-solving in the education domain and produces new knowledge for the profession of nursing. Students may develop a thesis on the basis for a doctoral program. Requires 60 hours of practicum.

3 credits

NURS 612

Leadership Practicum

The culmination of learning is demonstrated in the practicum experience through hands-on activities in the organization of choice that permits students to analyze, apply, and integrate learned knowledge and skills through the exercise of problem-solving, resource management, interdisciplinary collaboration, and

effective communication. The experiential role is with a leader in nursing for 60 hours.

3 credits

Nutrition

Nutritional Science

The following nutritional science courses are offered only in the master's program in Nutrition. This program is available online. All courses are offered 3 times annually (fall, spring, summer).

560A	Pathophysiologic Basis of Metabolic Disease
560B	Biochemistry of Nutrition
560C	Vitamins and Minerals
560E	Assessment of Nutritional Status
560D	Clinical Biochemistry
560G	Lifelong Healing with Food
560H	Developmental Nutrition
560I*	Functional Medicine Nutrition
*will not be offered after spring 2023	
560F	Nutritional Therapeutics
560M	Evidence Based Nutrition
560N	Anatomy and Physiology for the Clinical Nutritionist
560K	Virtual Clinic
560P	Botanical Medicine

NUTRITION 560A

Pathophysiologic Basis of Metabolic Disease

This course will study the underlying mechanisms of disease and the complex interrelationships between critical systems including respiratory, urinary, cardiovascular, digestive, nervous and endocrine. Concepts will include fluid and electrolyte imbalances, acid and base imbalances, inflammation, hypersensitivity, microbiome, infection, necrosis, and neoplasm. The influence of various nutrients on systemic function will be discussed as appropriate. Prerequisite: NUTR 560N, 560U, 560V.

4 semester hours

NUTRITION 560B

Biochemistry of Nutrition

This course addresses the basic chemical and biological principles of living systems, with a focus on the relationship of structure to function, bioenergetics, enzyme kinetics and metabolism. Structures of interest will be amino acids/proteins, nucleic acids/DNA/RNA, lipids and carbohydrates. Prerequisite: 560U, 4 credits of Introduction to Biochemistry, or 8 credits of Organic Chemistry.

Nutrition • Physician Assistant

4 semester hours

NUTRITION 560C

Vitamins and Minerals

This course will apply the basic sciences to understanding the principles of nutritional science, primarily as it relates to vitamins and minerals. This information will be used to explore the functions of the micronutrients and their roles in health promotion and disease processes. This course will also encourage and stimulate students to pursue information in the field of clinical nutrition and to develop the student's ability to critically analyze such information. Prerequisite: Nutrition 560A, 560M, 560B.

3 semester hours

NUTRITION 560E

Assessment of Nutritional Status

This course will give students insight into clinical and laboratory procedures for evaluation of nutrient status, including blood, stool, and other tissue analyses, principles of functional assessment, dietary records, questionnaires, case histories, nutritional physical examinations, and anthropometric methods.

Prerequisites: Nutr 560A, M.

3 semester hours

NUTRITION 560D

Clinical Biochemistry

The course encapsulates the biochemistry of disorders arising from acid/base imbalance and the abnormal metabolism of the carbohydrates, lipids, proteins, amino acids, nucleic acids, bile pigments, vitamins and hormones. Inherited disorders of metabolism, the role of enzyme performance in prognosis of biochemical dysfunctions and the meaning and interpretations of clinical laboratory findings both traditional and functional are discussed.

Prerequisites: Nutr 560A, B, C, E, M.

3 semester hours

NUTRITION 560G

Lifelong Healing with Food

This course focuses on the use of food as medicine in a variety of ways to facilitate health promotion and healing. The course covers the landscape of the US food system, the connection between mood and food, and food safety. The concepts of individualized food prescriptions and special and medical diets will be introduced and explored, including behavioral and cultural perspectives on nutrition planning. Prerequisites: Nutr 560A,B,E,M.

4 semester hours

NUTRITION 560H

Developmental Nutrition

Nutritional considerations and health-related concerns throughout the life cycle are explored. Pregnancy, lactation, fetal, infancy, childhood, and adolescent growth and development are addressed in detail, in this context. Also considered is the etiology of nutrition-related disorders of adulthood and the elderly. Prerequisites" Nutr 560A, B, C, E, M.

3 semester hours

NUTRITION 560I

Functional Medicine Nutrition

This course will teach advanced biochemical assessment using critical analysis of client history with clinical testing from a functional medicine perspective. Functional lab testing will be evaluated in detail with case studies. Topics will be relevant to preventative as well as therapeutic nutrition care. Prerequisites" Nutr 560A, B, C, D, E, G, M.

3 semester hours

NUTRITION 560F

Nutritional Therapeutics

This course will explore the importance that nutrition has in a multitude of disease states. The role various diets may play in health will be discussed. In addition to diet, other topics will include the importance of hydration, detoxification, and the use of supplements such as vitamins, minerals, amino acids, essential fatty acids, and herbal extracts. This course will include an understanding of the mechanism of action of various nutritional interventions, as well as the role it can play in helping to restore wellness. Prerequisites: Nutr 560A,B,C,D,E,G,H,M.

4 semester hours

NUTRITION 560M

Evidence Based Nutrition

The course describes the analytical approaches for searching and interpreting clinical research data reported in the literature using evidence-based practice with emphasis on the application of those data in clinical practice. Biological variation, experimental design, data and fact differences, matching analysis to design, integrity in analysis, and bias in design and analysis are considered in detail. Prerequisites: Nutr 560N,U,V.

3 semester hours

NUTRITION 560N

Anatomy and Physiology for the Clinical Nutritionist

This course is a presentation of human anato-

my and physiology by the systems approach, first discussing the normal anatomy followed by the physiological concepts of each system. Student's also end up learning from one another via the Discussion Board, using peer reviewed and scholarly papers to support their answers. The first part of the course deals with the chemical, cellular, and the tissue levels of the human body. After these general concepts are completed, the remainder of the course will cover the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, respiratory, digestive, urinary and reproductive systems.

3 semester hours

NUTRITION 560K

Virtual Clinic

This final semester course will incorporate critical thinking and scientific knowledge as you complete 4 monthly modules on clinical management online with different instructors. You will learn key skills in assessment, clinical test analysis, designing treatment plans for specific common health conditions, weight loss strategies and how to effectively start and grow your nutrition practice. Prerequisites Nutr 560A, B, C, D, E, G, F, H, I and M.

4 semester hours

NUTRITION 560P

Botanical Medicine

A study of the use of herbs in nutritional practice. Lectures include the mechanism of action, pharmacological/toxicological properties, clinical applications, product standardization, and recommended dosage of individual herbs. Prerequisites Nutr 560A, B, C, D, E, G, F, H, I and M.

3 semester hours

NUTRITION 560U

Introductory Biochemistry for the Clinical Nutritionist

A review of basic general chemistry topics including atomic theory, periodic law, chemical bonding, chemical reactions, kinetics, acids and bases, and organic chemistry topics including isomerism, and physiochemical properties of various functional groups. Biochemical properties of carbohydrates, lipids, proteins, and nucleotides will also be discussed. Prerequisites: High School Algebra, High School Chemistry

3 semester hours

NUTRITION 560V

Nutrition Fundamentals

Physician Assistant

This course is designed to give a basic overview of the role of food in human health. Emphasis will be placed on the role of macro- and micronutrients in human health plus issues that affect this relationship. These include digestion, absorption, metabolism, and energy balance.

2 semester hours

NUTR 600N

Comprehensive Exam

This course allows access to the Comprehensive Exam, which assesses students' mastery of the core curriculum in the MS in Nutrition program. It also provides student access to study guides to aid in preparation for the exam. The exam is available to eligible students for a 24-hour period once per semester. Successful completion of this exam is a requirement for graduation. Prerequisites Nutr 560A, B, C, D, E, G, F, H, I, K, M, P.

0 semester hours

Physician Assistant (MSPA)

PHYSICIAN ASSISTANT 511

Anatomy I with Lab

Introduces the functional anatomy of the human body with a focus on clinical application. Students will have the opportunity to locate, identify, and dissect all major muscular, nervous, vascular, bony, and soft tissue structures using cadaveric specimens, with a focus on the thorax, abdomen, and pelvis.

3 credits

PHYSICIAN ASSISTANT 512

Anatomy II with Lab

A continuation of the study of the functional anatomy of the human body with a focus on clinical application. Students will have the opportunity to locate, identify, and dissect all major muscular, nervous, vascular, bony, and soft tissue structures using cadaveric specimens, with a focus on the head, neck and musculoskeletal systems. Prerequisite: MSPA 511.

3 credits

PHYSICIAN ASSISTANT 521

Physiology I

Presents the physiology, biochemistry, and genetics of body functions. Students will learn mechanisms by which homeostasis is maintained on molecular, cellular, organ, and organismal levels. The course presents an in-depth exploration of nervous, cardiac and pulmonary system physiology.

3 credits

PHYSICIAN ASSISTANT 522

Physiology II

Further explores the study of body function physiology. The renal, gastrointestinal, endocrine, and reproductive systems are investigated in detail, focusing on the major physiological processes essential for functioning of each organ system. Students will gain understanding of the roles of hormones, nervous integration, and environmental factors in the functioning of these organ systems. Prerequisite: MSPA 521.

3 credits

PHYSICIAN ASSISTANT 529

Clinical Medicine I

In the first of three terms, presents an ongoing body systems based course that integrates the skills and learning from the curriculum as related to medical problems encountered in the primary care setting. Emphasis is placed on the etiology, pathophysiology, and clinical signs and symptoms of disease in various medical subspecialties. Students will learn to develop differential diagnosis, select and interpret diagnostic tests, create and implement treatment plans including therapeutic procedures, pharmacology, and patient education. Specific modules covered in this course are Psychiatry/Substance Abuse, Introduction to Diagnostic Medicine and Radiology, Infectious Disease, Neurology, Dermatology, and HEENT (Head, Ears, Eyes, Nose, and Throat) Medicine.

5 credits

PHYSICIAN ASSISTANT 530

Clinical Medicine II

This is the second of three terms in an ongoing body systems based course. Specific modules covered in this course are Cardiology, Pulmonology, Gastrointestinal Medicine, Renal Medicine, Genitourinary, and Endocrinology. Prerequisite: MSPA 529.

6 credits

PHYSICIAN ASSISTANT 533

Clinical Medicine III

This is the final term in an ongoing body systems based course. Specific modules covered in this course are Obstetrics/Gynecology, Pediatrics, Geriatrics, Hematology/Oncology, Rheumatology, Orthopedics, Emergency Medicine, and Surgery. Prerequisites: MSPA 529, 530.

8 credits

PHYSICIAN ASSISTANT 534

Correlative Medicine I

Develops students' critical thinking skills related to diagnosing and managing commonly

encountered medical complaints. Students will utilize information gathered during history and physical exam to determine differential diagnoses, select medically appropriate and cost-effective diagnostic tests, and formulate management plans for the most likely diagnoses for a given medical complaint. Throughout this course, students will learn to discern important information from extraneous details in history taking, identify pertinent physical exam findings, prioritize diagnostic tests, and use evidence-based decision making skills.

2 credits

PHYSICIAN ASSISTANT 542

Correlative Medicine II

A continuation of MSPA 534, this course further enhances students' diagnostic and treatment skills. In this term, interprofessional exercises are also incorporated, emphasizing the importance of integrated care and communication with other members of the healthcare team. Prerequisite: MSPA 534.

2 credits

PHYSICIAN ASSISTANT 551

History and Physical Exam I with Lab

The first of an ongoing sequential two-term course covering medical interviewing and physical examination. In this term, students will focus on foundational components of medical interviewing and patient-centered, culturally sensitive techniques. Fundamentals of a complete and problem focused medical history will be taught. The course will include components of physical exam including general exam, vital signs and HEENT examination. Normal and abnormal physical findings will be emphasized.

3 credits

PHYSICIAN ASSISTANT 552

History and Physical Exam II with Lab

The second of an ongoing sequential two-term course. In this term, students will earn the techniques of physical exam of each body system and build upon skills of history-taking learned in the prior semester. Skills and techniques of physical examination are described. Normal and abnormal physical findings are introduced and emphasized. Students will begin to formulate differential diagnosis and develop critical thinking skills. Prerequisite: MSPA 551.

3 credits

PHYSICIAN ASSISTANT 556

Patient Education, Nutrition and Counseling

Provides an opportunity for students to gain understanding of how patients present, learn

Physician Assistant

and make preventive changes based on research and theories of personality and learning styles. Focus is placed on assessing patients' health literacy, knowledge, attitude, and readiness to change. They will gain skills to deliver effective education and counseling to patients. This course also emphasizes disease prevention and health promotion through nutrition throughout the lifespan, with emphasis on the pediatric and geriatric populations.

2 credits

PYSICIAN ASSISTANT 565

Integrative Medicine and Practice

An introduction to the historical use, philosophical basis and current application of a variety of complementary and/or alternative medical therapies which their patients may pursue. This course is designed to offer students exposure to traditional methods of disease management, currently considered to Integrative Medicine modalities.

2 credits

PYSICIAN ASSISTANT 574

Medical Ethics & Professional Practice

Offers students practical knowledge and context related to PA practice including care provided by PAs, systems of care and ethical behavior. Students will consider the history of the PA profession, utilize knowledge of legal obligations/regulations, structures of team care, and key PA organizations as references for their practice as a PA. Students will use principles of medical ethics to work through ethical decision making skills important for the practicing PA.

2 credits

PYSICIAN ASSISTANT 575

Global & Preventive Health

Introduction to key concepts in comparative world health and preventive medicine in the United States. The first portion of the course focuses on concepts related to global health including healthcare delivery, financing, infrastructure, and health disparities. We will then examine healthcare delivery models in both developed and underdeveloped countries. The second portion of the course focuses on healthcare prevention and the key disease prevention strategies employed in our country. The "Healthy People 2030" archetype is used to explore evidence-based and data driven goals to improve health and disparate care across our nation.

2 credits

PYSICIAN ASSISTANT 581

Pharmacology I

The first in a two term series, this course presents a study of drugs and their interactions with and within living tissue in a systems-based approach. Students will learn the pharmacological principles, dosing, patient education, pharmacodynamics, therapeutic parameters and indications of commonly prescribed drugs. They will explore the risks versus benefits of drug therapy and identify how to monitor therapeutic effect and side effects. Major drug classes covered in this course include those utilized for cardiovascular, pulmonary, gastrointestinal, endocrine, and integumentary disorders. Anti-infective agents are also explored at length.

3 credits

PYSICIAN ASSISTANT 582

Pharmacology II

A continuation of MSPA 581, this course further explores commonly prescribed medications. Major drug classes covered in this course include those utilized for musculoskeletal, neurological, psychiatric, hematologic, immunologic, and neoplastic disorders. Medications used in special populations including pediatrics, geriatrics, and men's and women's health are also explored. Prerequisite: MSPA 581.

3 credits

PYSICIAN ASSISTANT 591

Technical Skills with Lab

Provides practical experience in the performance of various technical skills frequently encountered in the clinical setting. Skills are taught with an opportunity for hands-on learning in the laboratory setting. Specifically, students will learn intravenous line insertion, injections, bladder catheterization, splinting, incision and drainage, lumbar puncture, intubation, central line placement, and suturing. The course provides students with an overview of common procedural skills and their indications, limitations, benefits and possible complications of procedures.

2 credits

PYSICIAN ASSISTANT 602

Information Literacy and Medical Writing

Introduces and develops the skills needed to practice evidence-based medicine to solve clinical problems utilizing available medical research. Students will learn to search, locate, interpret and evaluate the medical literature. This will allow them to use diverse information sources effectively to present an evidence-based solution to clinical problems.

2 credits

PYSICIAN ASSISTANT 610

Clinical Seminar

Develops and assesses skills necessary for practicing as a physician assistant in clinical settings. The course allows students to actively apply their didactic knowledge to a diverse set of clinical cases and settings, demonstrate clinical reasoning, and apply an evidence-based approach in developing management plans. Emphasis is placed on the differences between clinical settings students will encounter during the clinical clerkships.

4.5 credits

PYSICIAN ASSISTANT 622

Internal Medicine Clerkship

During this clinical course, second year PA students develop skills necessary to function as a PA in the internal medicine setting. Students will apply medical knowledge and clinical skills developed during didactic phase of their education. Students will actively engage in assessment, analysis, evidence-based approaches, and management of conditions typically seen in the internal medicine setting through the collection of historical and physical data. The rotation will emphasize acute, preventative, and chronic encounters of adult and geriatric patients. Students will work with the clinical education team and under the supervision of their preceptor(s) to provide care.

4.5 credits

PYSICIAN ASSISTANT 623

Pediatrics Clerkship

During this clinical course, second year PA students develop skills necessary to function as a PA in the pediatric setting. Students will apply medical knowledge and clinical skills developed during didactic phase of their education. Students will actively engage in assessment, analysis, evidence-based approaches, and management of conditions typically seen in the pediatric setting. The rotation will emphasize preventative, acute, and chronic encounters for patients ranging from neonates to adolescents. The student will be exposed to both ill-child and well-child visits to ensure exposure to developmental milestones and growth. Students will work with the clinical education team and under the supervision of their preceptor(s) to provide care.

4.5 credits

PYSICIAN ASSISTANT 624

Surgery Clerkship

Physician Assistant

During this clinical course, second year PA students develop skills necessary to function as a PA in the surgical setting. Students will apply medical knowledge and clinical skills developed during didactic phase of their education. Students will actively engage in assessment, analysis, evidence-based approaches, and management of conditions typically seen in the surgical setting. The student will perform the collection of historical and physical data and develop an understanding of evaluation and treatment of patients through pre-operative, intra-operative and post-operative patient encounters. The student will also gain hands-on experience in the operating room setting with exposure to surgical and diagnostic procedures, treatments, and technologies common for the general surgery specialty. Students will work with the clinical education team and under the supervision of their preceptor(s) to provide care.

4.5 credits

PHYSICIAN ASSISTANT 625

Emergency Medicine Clerkship

During this clinical course, second year PA students develop skills necessary to function as a PA in the emergency medicine setting. Students will apply medical knowledge and clinical skills developed during didactic phase of their education. Students will actively engage in assessment, analysis, evidence-based approaches, and management of conditions typically seen in the emergency medicine setting. The student will perform the collection of historical and physical data and develop an understanding of evaluation and treatment of patients with emergent or urgent medical conditions. The rotation will expose students to hands-on technical skills, diagnostic procedures, treatments and technologies that are specific to the emergency medicine specialty addressing patients across the life span. Students will work with the clinical education team and under the supervision of their preceptor(s) to provide care.

4.5 credits

PHYSICIAN ASSISTANT 626

Obstetrics and Gynecology Clerkship

During this clinical course, second year PA students develop skills necessary to function as a PA in the women's health setting. Students will apply medical knowledge and clinical skills developed during didactic phase of their education. Students will actively engage in assessment, analysis, evidence-based approaches,

and management of conditions typically seen in the women's health setting. The student will become proficient in accurate assessment of the obstetric patient with both pre- and postnatal care as well as common gynecologic disorders and preventative gynecology. Students will work with the clinical education team and under the supervision of their preceptor(s) to provide care.

4.5 credits

PHYSICIAN ASSISTANT 627

Family Medicine Clerkship

During this clinical course, second year PA students develop skills necessary to function as a Physician Assistant in the Family medicine clerkship setting. Students will apply medical knowledge and clinical skills developed during didactic phase of their education. Students will actively engage in assessment, analysis, evidence-based approaches, and management of conditions typically seen in the family medicine setting through the collection of historical and physical data. The rotation will emphasize practical clinical exposure to primary care patients, including common medical conditions, diagnostic procedures, treatments and technologies common for the family medicine environment across the life span. Students will work with the clinical education team and under the supervision of their preceptor(s) to provide care.

4.5 credits

PHYSICIAN ASSISTANT 628

Behavioral Health Clerkship

During this clinical course, second year PA students develop skills necessary to function as a PA in the psychiatric setting. Students will apply medical knowledge and clinical skills developed during didactic phase of their education. Students will actively engage in assessment, analysis, evidence-based approaches, and management of conditions typically seen in the psychiatric setting. The rotation will emphasize clinical exposure to common behavioral health conditions, diagnostic procedures, interviewing, counseling techniques, and treatments that are common for the behavioral health specialty across the lifespan. Students will work with the clinical education team and under the supervision of their preceptor(s) to provide care.

4.5 credits

PHYSICIAN ASSISTANT 629

Elective Clerkship

During this clinical course, second year PA students develop skills necessary to function

as a PA in the elective-specific setting. Students will apply medical knowledge and clinical skills developed during didactic phase of their education. Students will actively engage in assessment and evaluate patients seen in the elective-specific setting. The goal of this rotation is to provide students either an experience in a new clinical area or additional exposure to a core rotation that will emphasize common medical conditions, diagnostic procedures, treatments, and technologies that are common for the healthcare environment specific to the specialty chosen. Students will work with the clinical education team and under the supervision of their preceptor(s) to provide care.

4.5 credits

PHYSICIAN ASSISTANT 630

Special Populations Selective Clerkship

Under the guidance of a qualified clinical preceptor, second-year PA students develop skills necessary to function as a clinical PA in a unique clinical setting with a special population of patients. Special populations include patients who are underserved or underrepresented, such as those from geriatric, LGBTQ+, rural, urban, correctional facility, palliative care, veteran, addiction medicine, or other agreed-upon communities. Occurring in outpatient, inpatient or institutional settings depending on the patient population, the student may be exposed to acute, chronic or emergent medical and surgical conditions. This selective rotation will increase students' competence in addressing clinical challenges associated with the care of vulnerable populations, enhance cultural competence and sensitivity and address disparities in healthcare.

4.5 credits

PHYSICIAN ASSISTANT 651

Internal Medicine Rotation

This six-week clerkship provides direct patient care experiences in the in-patient setting. Under the direction of board-certified internists, students learn to evaluate and formulate treatment plans for patients with a wide variety of adult illnesses. Emphasis of this clerkship is on critical thinking skills, synthesis of pertinent clinical information, the presentation of problem-oriented patient data, indications for and interpretation of laboratory studies, and competence in clinical procedures.

5 credits

PHYSICIAN ASSISTANT 652

Pediatrics Rotation

This six-week clerkship explores the care

Physician Assistant • Statistics • Technology Management

of children from birth through adolescence. Acute illness, developmental delay, genetic abnormalities, psychosocial issues and preventive medicine are explored.

5 credits

PHYSICIAN ASSISTANT 653

Surgery Rotation

This six-week clinical experience focuses on the care of the surgical patient in the pre-operative, operating room and post-operative settings. Determination of surgical diagnoses and immediate management of life-threatening conditions are stressed.

5 credits

PHYSICIAN ASSISTANT 654

Emergency Medicine Rotation

This six-week clerkship provides opportunities to evaluate and treat patients with urgent and emergent medical complaints under the supervision of an emergency medical physician. The care of patients with life-threatening illness as well as patients seen in the sub-acute "fast track" are emphasized.

5 credits

PHYSICIAN ASSISTANT 655

Obstetrics/Gynecology Rotation

Experiences in the full range of woman's health issues throughout the reproductive and post-menopausal years are offered in this six-week clerkship, including participation in common gynecological surgical procedures and assisting in labor and delivery. Students learn to provide pre- and post- partum care and family planning as well.

5 credits

PHYSICIAN ASSISTANT 656

Family Medicine Rotation

Students work with board-certified family physicians and general internists to evaluate, diagnose and treat patients of all ages with a wide variety of illness in this six-week clerkship. Emphasis is on health care delivery in the outpatient setting, health promotion, preventive medicine and the patient-centered medical home.

5 credits

PHYSICIAN ASSISTANT 657

Psychiatry Rotation

The diagnosis, treatment and management of patients with psychiatric illness in the inpatient, outpatient and emergency settings are stressed in this six-week rotation. This clerkship requires students develop and demonstrate a variety of skills under the supervision and guidance of an experienced psychiatric

practitioner.

5 credits

PHYSICIAN ASSISTANT 658

Elective Rotation

This six-week experience offers the opportunity to explore a discipline of interest in depth. Students are responsible to enhance their understanding of this discipline through self-motivation.

2 credits

PHYSICIAN ASSISTANT 661

Capstone Project I

Allows students to build upon research skills learned previously in the program to develop a Clinical Review Paper. Students will perform a thorough systematic literature review, critical analysis of chosen papers, and analysis the findings. This course will culminate in the submission of a final Clinical Review Paper.

4 credits

PHYSICIAN ASSISTANT 662

Capstone Project II

This course further builds upon research skills and aids students in the development of a poster and poster presentation based upon the student's Clinical Review Paper submitted in MSPA 661 Capstone I. Prerequisite: MSPA 661.

2 credits

PHYSICIAN ASSISTANT 671

Research Methods

An introduction to the knowledge and skills needed to interpret the medical literature in the contexts of evaluating both the study methodology and statistical results. Students will learn about different study methodologies, which should be used depending on the research question and hypothesis, and practice using descriptive, parametric and non-parametric statistics to identify important study findings.

2 credits

PHYSICIAN ASSISTANT 695

Graduate Logistics

Introduces pertinent topics related to the PA profession and prepares students for graduation, certification, licensure and employment. Topics that are included PA scope of practice, resume and cover letter writing, billing, coding and reimbursement strategies, and how to search for employment.

1 credit

**All students are required to complete all of the seven core supervised clinical clerkships. The clinical clerkship sequence will be individually assigned to students.*

Statistics

STATISTICS 400

Statistics and Quantitative Analysis

This course is an introduction to basic statistical methodology and its applications to business decisions. Topics include probabilities, discrete and continuous probability distributions, probability sampling techniques, sampling distributions, interval estimation and hypothesis testing. The basics of specific statistical tests will be presented including chi square, correlation, multiple regression and analysis of variance. Students will use software packages to perform statistical analysis. Prerequisite: Admission to graduate study.

3 semester hours

Technology Management

TECHNOLOGY MANAGEMENT 466

Foundations of DNA and Biotechnology

This course investigates the nature and origin of the human genome and covers contemporary issues. It also covers issues on the management of scientific data from publicly accessible data sources and utilizes cloud computing to easily exploit this information. It imparts interdisciplinary knowledge on how to understand, organize, manage and analyze biomedical data using contemporary cloud computing processing. Learning goals include understanding scientific context and the limits of technology, design of data, and design of data infrastructure to gain flexibility of data access, use and reuse in different contexts. The design of a biomedical data management system relies on in depth knowledge of highly specific context and the design of various data structures concerning the same data to allow access and exploitation of information related to biomedical applications.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 500

Graduate Co-Op/Internship in Technology Management

Students will work for a company in a role that is appropriate for an MS - TM graduate, or near graduation. Through this experience students will apply management principles and theory in a practical setting. The student will write a paper summarizing the tasks and accomplishments encountered within the organization, as well as make managerial recommendations for improvement of the company, or division in which s/he was employed. Prerequisite: Final

Technology Management

semester of study and the Director, TM Program approval.

1-3 semester hours

TECHNOLOGY MANAGEMENT 505 (TCMG 505/MGMT 555)

Project Management

This course is an advanced course in Project Management. Topics included are planning and pricing , conflict management, time management, cost management, quality management, project related human resources management, communications management, risk management, procurement management and professional responsibility. This course is based on current and emerging best practices and principles. It will also discuss PM certification requirements and provide real world case studies.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 506 (TCMG 506)

Advanced Program and Project Management

This is an advanced course in Project Management. Topics included are planning and pricing , conflict management, time management, cost management, quality management, project related human resources management, communications management, risk management, procurement management and professional responsibility. This course is based on current and emerging best practices and principles. It will also discuss PM certification requirements and provide real world case studies. Prerequisite: TCMG 505. Can be taken in the same semester with TCMG 505.

3 semester hours

TECHNOLOGY MANAGEMENT 510

Technology Marketing

This course is a pragmatic course focused on contemporary marketing and innovation issues, opportunities and current and emerging industry best practices in helping technology oriented and engineering organizations grow and achieve sustainable competitive advantages in a complex and rapidly changing global environment. The impact of new technologies, which enable and provide strategic marketing and innovation will also be covered.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 512 (TCMG 512/MGMT 590)

Intellectual Property

Protection of a business' intellectual property assets can make the difference between success and failure. This course will discuss the strategies and methods available for protection of intellectual property in the global environment. Students will work through the

American patent, copyright and trademark processes, including how to prepare and file applications for each. Students completing this course should be able to pass the Patent Agent exam. Global business issues, such as protection of ideas in an off-shoring arrangement, IP co-development and other issues, will also be addressed.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 514

Found Info Security Mgt

This course is designed to teach students how to engage all functional levels within the enterprise to deliver information system security. The course addresses a range of topics, each of which is vital to securing the modern enterprise. These topics include plans and policies, enterprise roles, security metrics, risk & threat management, standards and regulations, physical security, business continuity, certifications, security technology, applications and careers in information security. Effective information security management at the enterprise level requires planning, broad participation and practice. The ability to secure information in large or small organizations is growing challenge on a global basis.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 515

Cyber Security Forensic Analysis & Inves

This course introduces students to the fundamental principles and topics of cyber security forensic analysis and investigations. Students learn critical forensic principals, methodology and tools that enable them to plan, develop and perform investigations and analysis. The course addresses hardware, software, wireless devices, processes, communications, applications, policies, procedures and legal implications to help identify incidents and intrusions. Law enforcement, systems and network administrators, attorneys and private investigators and many businesses now rely on the skills of professional cyber security forensic experts to investigate criminal, civil and terrorist activities.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 520 (TCMG 520)

Information Systems Development & Design

A course in the analysis, design, and development of business systems. Students will learn a variety of development models and tools available for systems development, deployment and management. The role of all systems constituents is addressed through discussion of the specification, decision-making, and review

of designs, documentation, program specifications, and system improvement. Course level and content is suitable for managerial as well as the more technically oriented.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 521

Information Systems and Knowledge Management

The course introduces guiding theories and concepts of knowledge management and its relationship to contemporary workplaces. This course will explore various issues of creating, storing, sharing, and applying knowledge in organizational environments, which will include a review of the role and basic functions of information technology. Successful organizations foster both innovation and efficiency via knowledge. Students will evaluate the different dynamics related to realizing organizational progress through the effective and efficient use of talent, structure, culture, methods, and technology. In addition to the required textbooks, students will be required to research industry journals as a way to evaluate the application of knowledge in real settings across various industries.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 523 (TCMG 523/MGMT 523)

Leadership in Technical Enterprises

This course focuses on the development of leadership skills important in the effective management of change. Through role-playing exercises, videotapes, diagnostic tools, seminar discussion, selected readings, and a group project, students will learn theory and build interpersonal skills necessary for providing leadership in diverse multicultural groups and organizations. The course will address the managerial issues present in organizations undergoing accelerating change and adopting a culture of creativity. Creating and sustaining high performance multi-cultural and interdisciplinary traditional and virtual teams is covered.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 524

Statistical Quality Control Techniques

This course presents Statistical Quality Control techniques used in determining operating quality levels to maintain quality assurance in service and manufacturing industries. Topics covered will include, but not limited to tools for detection and isolation of sources of variation: construction and interpretation of charts for variables and attributes, process control and capability. The course objectives is to develop and operational familiarity with contemporary methods found to be effective.*3 lecture hours;*

Technology Management

3 semester hours

TECHNOLOGY MANAGEMENT 525 (TCMG525)

Finance, Accounting and Economics for Engineers

In today's competitive business world, it is essential for engineers to apply the principles of engineering economics to make rational economic decisions. Students will be exposed to the methods and tools, which are widely used in the financial evaluation and decision-making processes of selecting project alternatives. This course will also provide students with the skills required to read, interpret and apply information about an organization's financial position. Managerial accounting and finance concepts will be presented, followed by financial statement analysis.
3 lecture hours;
3 semester hours

TECHNOLOGY MANAGEMENT 526 (TCMG526)

Decision Analysis in Technology Management

The purpose of this course is to develop a conceptual framework for assisting in the making and assessment of socio-technological decisions in the management of technology. Heuristics, methodologies, and quantitative models will be introduced to address decision-making. Qualification of subjective judgments and the development of hierarchical decision models are included. The course provides insight into making rational decisions where multiple perspectives such as social, technical, economic, environmental, political and legal may impact the decision. Team projects are conducted to apply the concepts.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 530 (TCMG 530/MEEG 530)

Foundations of Manufacturing Management

The objectives of the course are to understand and apply concepts and techniques in manufacturing management. The course includes the management of people (both traditional and high performance systems and teams), lean manufacturing techniques as used on the factory floor, and recent concepts such as Factory Physics. The course focuses on those issues that are important in supervising and managing a modern manufacturing operation.
3 semester hours

TECHNOLOGY MANAGEMENT 532 (TCMG 532/MKTG 550)

Global Market Management

Strategy planning, implementation and control for market entry and development. Topics include social, political and economic changes affecting marketing opportunity; focused versus dispersed marketing efforts; marketing in developed and undeveloped countries; and

marketing systems required for the various strategic alternatives.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 533 (TCMG 533)

Information Technology Strategy and Governance

This course covers information technology plans, strategy, business/IT alignment, governance, environmental, ethical, economic, regulatory, compliance and technical issues and trends with a focus on planning, organizing, justifying, controlling, implementing and integrating concepts and real world experiences. It discusses business and IT balanced scorecards, metrics and key performance indicators. Current and emerging best business and technology strategy and governance best practice frameworks such as COBIT, CMMI, PMBOK, Kano, VOC, QDF, ITIM, Prince2, ITIL, select ISO standards and others will be covered with emphasis on lessons learned, critical success factors and pragmatic solutions. Individual and team projects and case studies are integrated into the course.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 534 (TCMG 534/MGMT 535)

Strategic Sourcing and Vendor Management

This course covers the rewards and risks of outsourcing and vendor management and identifies where outsourcing should be used and not used. The objectives of the course are to help students understand how to plan, direct, manage and more effectively participate in outsourcing initiatives in terms of the feasibility of outsourcing (off-shore, near-shore, rural-shore, best shore), vendor selection, contract negotiation, vendor management and evaluation, risk assessment and terminating outsourcing deals. Prerequisite: TCMG 523 and TCMG 505 or Director, TM program approval.
3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 535 (TCMG 535/BMEG 535)

Foundations of Bio Tech Sciences and Management

This course covers the comprehensive scope of knowledge of major issues and technologies in the bio technology field. This includes regulatory, robotic, imaging, cybernetics, bio-informatics, genetics, ethics and related areas. Individual and team projects will be assigned.
3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 537

Technical Communication for Engineers

This course is designed to improve oral and written methods of communication related to technology, engineering, and science. Common forms of professional technical communica-

cation (e.g. emails, memoranda, white papers, standard operating procedures, customer presentations, and technical brochures) as well as more advanced technical communication (e.g. posters, patents, research articles, academic presentations, books, dissertations, engineering drawings, Bills of Materials, technical standards, and engineering specifications) are emphasized. Course topics will review vocabulary, grammar, writing, reading comprehension, speaking and presentation skills to help students succeed in graduate level studies while also gaining necessary job-related skills.
3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 538

Manufacturing and Serv Eng

The course covers service industry principles, manufacturing systems, facility layout, Factory Physics, Theory of Constraints, aspects of lean manufacturing, manufacturing for sustainability, and manufacturing safety as well as the management of people in service and manufacturing environments.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 540

Simulation and Modeling

The purpose of this course is to provide an in depth coverage of the use of simulation and modeling as an analysis tool for the study of production and distribution processes. The course aims to develop a sense of critical thinking, learning and problem solving. Topics include: problem formulation, data collection and analysis, random variable generation, and statistical analysis of output. Utilizes a major simulation language, SIMAN.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 546 (TCMG 540/MEEG 540)

Engineering Economics

The course covers the concepts and methods that will assist engineering and technology managers and professionals to make alternative investment and funding decisions regarding projects, programs, products, business expansion and other alternatives using the financial calculations involving time value of money (IRR, ROI, NPV), uncertainty and risk. Topics include engineering and related financial evaluation techniques and formulas, choosing among alternatives, sensitivity analysis, economic analysis, opportunity costs, depreciation, amortization, probability, cost estimating and systems and others.

3 semester hours

Technology Management

TECHNOLOGY MANAGEMENT 549

Bus Intelligence & Decision Support Syst

3 semester hours

TECHNOLOGY MANAGEMENT 555

Contemp Prob Tech Mgmt

3 semester hours

TECHNOLOGY MANAGEMENT 558 (TCMG 558)

Biotechnology & Entrepreneurship

This course covers theory and practice of bio-entrepreneurship. It explores the transformative and disruptive nature of scientific discoveries and the innovative and entrepreneurial process for turning knowledge into profitable business. Students are required to develop and communicate in-depth knowledge on the evolution of the biotechnology industry and the behavior of entrepreneurial biotechnology firms to build core competencies and acquire funding. Individual and team projects and case studies are integrated into the course.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 559 (TCMG 559)

Found of Bus Process & Ops Mgt

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 560 (TCMG 560)

Foundations of Environmental and Energy Management

This course covers the assessment of current and potential environmental and energy management issues, opportunities and threats. Key issues such as global warming, pollution, global energy supply and demand needs will be discussed. Alternative energy sources are reviewed, including examination of energy technologies in each fuel cycle stage for fossil (oil, gas, synthetic), solar, biomass, wind, hydro, nuclear, and geothermal energy types, along with storage, transmission, and conservation issues.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 561 (TCMG 561)

Economic, Regulatory, Cultural, and Societal Issues in Environment and Energy Management

The course will focus on a review of the environmental and energy management safety, hazard identification and disaster prevention policies, laws, concepts and issues. U.S. and international laws, regulations and standards will also be covered. The course will provide the student with a better understanding of how the complexity of this topic impacts economic, political, cultural and societal and opportunities in environment and energy management.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 568

Intro to SQL and R for Data Science

This course teaches Structured Query Language (SQL) and R programming languages. SQL is used by database administrators, data analysts, business intelligence specialists for setting up and running analytical queries. R Programming language is used for data analysis and visualization. The is designed to provide a comprehensive overview and step-by-step instructions on SQL. In this course, students will learn how to create and design tables, manipulate data and run reports, and create programs such as stored procedures, functions and triggers. More advanced concepts such as cursors will also be covered. Oracle database techniques applicable to other popular SQL engines including Microsoft SQL Server and MySQL.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 571 (TCMG 571/MGMT 571)

Foundations of Service Management and Engineering

With the rapid growth of the services industry, this course integrates topics from economics, engineering, law, technology and organizational theory to deal with how firms change over time to become more service oriented or become service business and the mechanisms and tools by which they seek innovation and competitive advantage in the service sector. The services life cycle is reviewed. In addition, enabling technologies and how different disciplines help to answer questions about how business services combine, evolve, standardize and mature are covered.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 572 (TCMG 572/MEEG 572)

Production Technology and Techniques

This course will introduce up-to-date technology, techniques and systems of the global manufacturing industry. American manufacturing situation would be analyzed and Japanese manufacturing success is also explored. Comprehensive and readable description of manufacturing practice is researched.

3 semester hours

TECHNOLOGY MANAGEMENT 573 (TCMG 573/MEEG 573)

Supply Chain Management

The goal of this course is to cover not only high-level supply chain strategy and concepts, but also to give students a solid understanding of the analytical tools, to understand supply chain design, planning and operation and high it impacts the performance of a firm. It also conveys how supply chain drivers used on a conceptual level during supply chain design

and operation lead to performance improvements.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 574 (TCMG 574/MEEG 574)

Principles of Logistics and Materials Management

This course presents materials management, logistics theory and concepts in today's manufacturing and commercial environments. It integrates all of the functional areas of the business as well as incorporating logistics into corporate operation. They are examined in light of how they interrelate with other functions for the firms.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 575

Introduction to Big Data & Data Science for Technology Management

This course introduces the concepts of big data, data science, and data analysis. These concepts are applied to applications and services. Because large amounts of data can best be understood in graphic or pictorial format, data visualization is also introduced. Since data science inherently involves statistical analysis a few basic constructs such as cluster and regression analyses will be part of this course. These statistical concepts will be strengthened with exercises using R. R is an open source programming language and software environment for statistical computing and graphics analysis. An R package, Shiny, is applied for interactive web applications. Python is also introduced for comparison with R. Case studies will focus on information and communications technologies for sustainable development.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 577

Lean Manufacturing

This course teaches the core methods and philosophy of lean manufacturing. Lean Manufacturing is historically based on the Toyota Production System used to significantly reduce the time, increase the reliability and reduce the cost, space requirements and inventory of a manufacturing environment. Each week a different aspect of the Lean Manufacturing will be taught. Each week, homework will focus on the implementation of these concepts into the term project designs.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 578

Six Sigma

Six Sigma is a methodology and set of quality management tools (especially statistical meth-

Technology Management Doctoral Seminars

ods) used to improve the quality of process outputs, identifying and removing the causes of defects or errors and minimizing variability in manufacturing and business processes. This course teaches the core methods and philosophy of Six Sigma. Each week a different aspect of the Six Sigma will be taught. Each week, homework will focus on the implementation of these concepts into term project designs.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 580

New Product Commercialization

The objectives of the course are to understand and apply concepts and techniques of product commercialization. The course focuses on taking student created product concepts and having student teams drive the concepts to become actual products. Product design, prototype creation, market analysis, and financial analysis all come together within the student team to create a viable product. If ideas are worthy, teams may work with the University's CTech IncUBator to actually commercialize their products. Students are strongly encouraged to find a sponsor to actually commercialize their product ideas.

3 lecture hours; 3 semester hours

TECHNOLOGY MANAGEMENT 595

Technology Business Strategy (Capstone Course)

This course provides an opportunity for students to apply the knowledge and skills they have learned throughout their TM course of studies with their business and technology experiences from a multi-disciplinary perspective. The Strategic management process represents the full set of organizational policies, plans, practices, commitments, decisions, governance mechanisms and actions required for a firm to develop a vision and a compelling business plan and execute the plan to achieve strategic competitiveness, earn above-average returns and sustain growth. The course will develop and integrate knowledge of the strategic management process, frameworks and tools, including strategy development, formulation and deployment, while embracing and managing rapid and constant change and minimizing business disruption

3-6 semester hours

TECHNOLOGY MANAGEMENT 597

Master's Project

A capstone course dealing with the development and implementation of business strategy and plan within a framework of ethical

decision-making, globalization and managing accelerating change. It tests the capability of the student to apply and integrate all prior graduate learning to solve actual strategic management problems, develop a business plan and conduct organizational performance and governance assessments. The final project of this course is project-based and shall constitute, therefore, an outcome assessment of what the student has learned in the MS - TM program. Prerequisite: TCMG 505, 525 and 524; minimum grade C.

3-6 semester hours

TECHNOLOGY MANAGEMENT 597 C

Masters Project (Completion)

Topics to be arranged. Prerequisite: Approval of the Director, TM Program.

1 semester hour

TECHNOLOGY MANAGEMENT 598

Thesis in Technology Management

Completion of a report based on field, library and institutional research to demonstrate ability to conduct investigations in a technology management discipline. Approval of the Director, TM Program.

3-6 semester hours

TECHNOLOGY MANAGEMENT 599

Independent Study in Technology Management

This course is reserved for a special project that cannot be done any other way and to help a student complete the MS when no other alternative is available. Prerequisite: Approval of the Director, TM Program.

3 semester hours

TECHNOLOGY MANAGEMENT 620

Strategic Management of Technology and Innovation

This course presents a coherent process for the formulation, implementation, and assessment of technology strategy. This includes the technology life cycle of initiation, growth, maturation, and decline of business innovation. Technology management and innovation are studied within a strategic management perspective. Methods of technology planning, aligning technology with business strategy for competitive advantage, and strategic management for use in organizations that use a broad range of technologies are discussed. Strategies for commercializing products and services, new technology adoption, process innovation and business/technology transformation are included.

3 semester hours

TECHNOLOGY MANAGEMENT 645

Technology New Venture Creation

This course is for graduate students interested in starting a technology venture, joining a small firm intent upon rapid growth, or pursuing a career in consulting, venture capital, or the management of a technology business or venture for larger companies. The course will provide an opportunity to identify and analyze new business and technology venture issues and opportunities. Select topics covered include: evaluating market opportunities, designing profitable business models, producing a solid business plan, raising capital (multiple rounds), protecting intellectual property and exit strategies such as a merger, the sale of the company or an initial public offerings (IPO).

3 semester hours

TECHNOLOGY MANAGEMENT 694

Written/Oral Comprehensive Exam

Students taking comprehensive Ph.D. examinations are required to register for (TMPD)* 694.

0 semester hours

Technology Management (Ph.D.) Doctoral Seminars

These courses are designed for doctoral students only. (TMPD= Technology Management Ph.D. course)

TECHNOLOGY MANAGEMENT 694

Written/Oral Comprehensive Examination

Students taking comprehensive Ph.D. examinations are required to register for (TMPD)* 694.

0 semester hours

TECHNOLOGY MANAGEMENT 698

Teaching Requirement

Ph.D. students assigned to teach courses to fulfill the teaching practicum of the Ph.D. in Technology Management are required to register for (TMPD) 698.

0 semester hours

TECHNOLOGY MANAGEMENT 699

Seminar (Oral Defense of Dissertation Proposal (Oral Defense))

This course is a zero credit course. It involves attending the regular departmental seminars and presenting one's work in one of the seminars.

0 semester hours

Technology Management Doctoral Seminars

TECHNOLOGY MANAGEMENT 702

Explorations in Research Methodologies

This course exposes students to a wide variety of research approaches across many disciplines. Explores the processes and problems of designing and conducting various kinds of research. Develops skill in evaluating TM research. Through a series of guest researchers, enables students to discuss research process and publication issues with experts. Explores the non-statistical issues in research planning and execution. Develops understanding and skill in the scientific approach, problem definition, hypothesis development, research design and methodology planning.

3 semester hours

TECHNOLOGY MANAGEMENT 704

Research, Design, Data Analysis and Measurement

The major objective of this course is to provide beginning doctoral students with an understanding of the central issues and choices in research design. The course is designed to prepare students to design and conduct research studies. Emphasis will be placed on how to think about research problems, what are appropriate methods to approach such problems, and what are the related issues in the choice of research methodology. Students will be introduced a broad array of data collection methods that are used in social science research. Prerequisite: TMPD 702

3 semester hours

TECHNOLOGY MANAGEMENT 706

Quantitative Methodologies

This course provides the mathematical and statistical preparation to support subsequent doctoral course work within the Technology Management department and prepare the student to apply quantitative methods and data analysis techniques. Topics include probability, statistics, measurement and evaluation, sampling, designing studies, linear algebra, linear programming, optimization, simulation, and modeling and regression analysis. Students make extensive use of leading-edge industry software packages.

3 semester hours

TECHNOLOGY MANAGEMENT 710

Ph.D. Dissertation

This course is the Ph.D. Dissertation. The student is expected to work on the accepted topic and come up with original results. S/he has to report the results in the form of a Ph.D. dissertation. The student is encouraged to

document the intermediate results in the form of reports. S/he is also encouraged to publish these results as they are discovered, in the international professional literature, i.e., refereed conference proceedings and journals. Proof of good work is the acceptance of the results by reputable journals. Intermediate results can also be discussed in departmental seminars. The completed dissertation must be distributed to the dissertation committee members at least two weeks before the dissertation defense. The committee will read it and certify that the dissertation is a work of substantial merit and that it can be defended. It is the responsibility of the student that the final draft of the dissertation addresses all legitimate concerns of the committee members.

Minimum of 15 semester hours

Area 1: New Technology Venture Creation Electives

It is assumed that individuals taking this focus area will have the appropriate academic and business/industrial background. Those people not having the needed background will be responsible for taking necessary prerequisite courses, which will not count toward the minimum classroom hours required for the Ph.D. degree.

TECHNOLOGY MANAGEMENT 505 (TCMG 505/MGMT 555)

Global Program and Project Management

This course focuses on the managerial aspects of how to more effectively manage, plan and execute programs/projects with a focus on high quality deliverables arriving on time, within budget, within scope and to the customer's satisfaction. Areas covered will include program and project management life cycle phases, executive sponsorship, portfolio investment management selection and prioritization, requirements, scope and project charters, planning, development, estimating, staffing, leadership, scheduling, risk management, change management, project metrics, vendor integration and management and other related topics. This course is based on current and emerging best practices and principles. It will also discuss PM certification requirements and provide real world case studies.

3 semester hours

TECHNOLOGY MANAGEMENT 506 (TCMG 506)

Advanced Program and Project Management

This is an advanced course in Global Program and Project Management. It covers the Proj-

ect Management Institute's Knowledge and Process areas and prepares students to take various PMI Project Management Certification. Prerequisite: TCMG 505

3 semester hours

TECHNOLOGY MANAGEMENT 508 (TCMG 508 / MGMT 565)

Foundations of Product Management

This course covers new product development and innovation, as well as the product management life cycle. Topics covered include the feasibility and investment prioritization of new products or product enhancements, raising capital for new product development, market and customer needs analysis, make versus buy alternatives and product launch and commercialization issues and considerations, including promotion, pricing, distribution, competition, pre and post sales support, systems and infrastructure support, customer service and related areas. Students will work on individual and team projects that will include the development of a new product market/business plan.

3 semester hours

TECHNOLOGY MANAGEMENT 512 (TCMG 512 / MGMT 590)

Advanced Intellectual Property Management

This course will discuss the strategies and methods available for protection of intellectual property in the global environment. Students will work through the American patent, copyright and trademark processes, including how to prepare and file applications for each. Students completing this course should be able to pass the Patent Agent exam. Global business issues, such as protection of ideas in an offshoring arrangement, IP co-development and other issues, will also be addressed. Students will understand that the protection of a business' intellectual property assets can make the difference between success and failure.

3 semester hours

TECHNOLOGY MANAGEMENT 523 (TCMG 523/MGMT 523)

Leadership, Teams & Managing Change

This course focuses on the development of leadership skills important in the effective management of change. Through role-playing exercises, videotapes, diagnostic tools, seminar discussion, selected readings, and a group project, students will learn theory and build interpersonal skills necessary for providing leadership in diverse multicultural groups and organizations. The course will address the managerial issues present in organizations undergoing accelerating change and adopting a culture of creativity. Creating and sustaining high performance multi-cultural and interdisciplinary traditional and virtual teams is covered.

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3 semester hours

TECHNOLOGY MANAGEMENT 525 (TCMG 525)

Finance and Accounting for Managers

This course provides managers with the skills required to read, interpret and apply information about an organization's financial position. Managerial accounting and finance concepts will be presented, followed by financial statement analysis. Topics presented from a managerial perspective will include how accounting data is generated during business operations, how financial statements are created and analyzed, and management of finance to maximize return on investment and stakeholder equity and other related topics. Students will be required to participate in case work applying the principles presented in the class.

3 semester hours

TECHNOLOGY MANAGEMENT 532 (TCMG 532/MKTG 560)

Global Market Management

Strategy planning, implementation and control for market entry and development. Topics include social, political and economic changes affecting marketing opportunity; focused versus dispersed marketing efforts; marketing in developed and undeveloped countries; and marketing systems required for the various strategic alternatives.

3 semester hours

TECHNOLOGY MANAGEMENT 559 (TCMG 559/MGMT 560)

Foundations of Business Process and Operations Management

The nature of any organization is to provide products and services. At the heart of such provision is the operations management function, which can account for 60% to 75% of an organization's operating costs, investment and assets. Consequently the operations management role is challenging and dynamic, ranging from short-term control to long-term planning activities. Indeed due to the critical nature of the operations management function it is highly visible and exposed to scrutiny, more so than any other function of an organization. Therefore, if you want a career which is demanding and stimulating, as well as knowing that you are contributing to the success of an organization, the Operations & Business Management course can provide you with the perfect launch pad.

3 semester hours

TECHNOLOGY MANAGEMENT 582 (TCMG/MGMT 582)

Small Business and Entrepreneurship

This course provides a comprehensive re-

view of the marketing, operational, financial, product, service and business strategy and plans that must be mastered and developed as foundation for start-up of a small business or entrepreneurship enterprise. In addition, the growth of existing business, through Intrapreneurship, is also covered. Students are required to develop a comprehensive business plan for a business of their own choice and which is acceptable to the instructor.

3 semester hours

TECHNOLOGY MANAGEMENT 580 (TCMG 580X/MGMT 585X)

New Product Commercialization

The objectives of the course are to understand and apply concepts and techniques of product commercialization. The course focuses on taking student created product concepts and having student teams drive the concepts to become actual products. Product design, prototype creation, market analysis, and financial analysis all come together within the student team to create a viable product.

3 semester hours

TECHNOLOGY MANAGEMENT 595(TCMG 595)

Technology Business Strategy (Capstone/Course)

This course is a capstone course dealing with the development and implementation of a business strategy and plan within a framework of ethical decision-making, globalization and managing accelerating change. It tests the capability of the student to apply all prior learning to solve actual strategic management problems.

3 semester hours

Area 2: Select Current Emerging Technologies (Technology Specializations)

Bio-Technology and Bio-Medical Technology, Systems and Processes

It is assumed that individuals taking this focus area will have the appropriate academic and business/industrial background. Those people not having the needed background will be responsible for taking necessary prerequisite courses, which will not count toward the minimum classroom hours required for the Ph.D. degree. Students are expected to have a working knowledge of statistics, biology and chemistry.

BIOMEDICAL ENGINEERING 508 (BMEG 508/MEEG 508)

Biomechanics

Biomechanics is the application of mechanical principles to living organisms that included bioengineering, research and analysis of mechanism in living organisms, and application of engineering principles to and from biological systems. This course can be carried forth from the molecular level including collagen and elastin, all the way up to the tissue and organ levels. Some simple applications of Newtonian mechanics can supply approximations on each level, but precise details demand the use of continuum mechanics.

3 semester hours

BIOMEDICAL ENGINEERING 510 (BMEG 510/ELEG 510)

Medical Machines

This course provides a very good introduction and understanding of Electrical Safety, Medical electronics and Medical Machines, as applicable. Students often have different backgrounds and levels of understanding of technical concepts; therefore, we will develop the necessary background in this course in first few weeks and gradually move from basic to advance topics as listed below in "Class Topics" section. This course will further help by developing an approach to design devices and safety features. Behind every invention, law or device, there is always a need, a necessity. Students go from necessity to invention in the class since a large number of electronic equipment are being used in hospitals and medical centers for patient care and diagnosis or to carry out advanced surgeries. This course will enable students to learn the basics principles of different instruments used in medical science.

3 semester hours

BIOMEDICAL ENGINEERING 513 (BMEG 513/ELEG 513)

Biomedical Image Processing

This course is an elective course. The content of this course include the fundamentals of Digital Image Processing and its applications in biomedical field. Sampling and Quantization of signals are mentioned in order to introduce the digital images, some basic relationship between pixels are mentioned. Introduction to Fourier Transformation, Discrete Fourier Transform and Fast Fourier Transformed are explained. MATLAB programming with Image Processing Toolbox will be introduced to empathize and rigid the understanding of students. Others important fundamental theorems, e.g., Image Enhancement, Image

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Segmentation, Representation and Description are also mentioned. Students are required to implement some programs using the theorems learnt in classes.

3 semester credits

TECHNOLOGY MANAGEMENT 535 (TCMG 535/BMEG 535)

Foundations of Bio Tech Sciences and Management

This course covers the comprehensive scope of knowledge of major issues and technologies in the bio technology field. This includes regulatory, robotic, imaging, cybernetics, bioinformatics, genetics, ethics and related areas. Individual and team projects will be assigned.

3 semester hours

BIOMEDICAL ENGINEERING 547 (BMEG 547/ELEG 547)

BioMEMS

This course will introduce to students the fundamentals of BioMEMS, the application of MEMS (Microelectromechanical Systems) for biological applications. The topics include microfabrication, microfluids, biosensors, actuators, micro/nano drug delivery systems, micro total analysis systems and lab-on-a-chip devices, and detection and measurement systems. The main focus is to understand the fundamental challenges and limitations involved in designing and fabricating various BioMEMS and BioNEMS devices

3 semester credits

TECHNOLOGY MANAGEMENT 555X (TCMG 555/BMEG 555X)

Biotechnology and Entrepreneurship

The course examines the principles of bioentrepreneurship in developing new products, services and processes. Students will learn about the biotechnology dynamics at the global scale in the biomedical drug, diagnostic, hospital management, and devices industries and their markets. Deliverables include homework, assignments, an academic report and a team project. This course provides students with the skills required to read, interpret and apply academic literature, how to identify, extract and understand important information that is useful in the bioentrepreneurial decision making processes. Students will be required to participate in case work applying the principles presented in the class. 3 Semester hours

BIOMEDICAL ENGINEERING 562 (BMEG 562/ELEG 562)

Nanofabrication with Soft Materials

This is an advanced level graduate course focusing on fabrication of soft materials. Nanofabrication processes and nanosystem products will be discussed. Fundamentals associated

with chips fabrications and linking them toward soft materials assembly will be detailed. Emerging nanotechnology based methods for soft and green electronics, mechanical parts, MEMS, PCBs will be covered. Gene chip, label free sensory assay using micro and nano-fluidics will be discussed. Transfer printing, DNA-protein interactions using the chip and several nano-scale assemblies for soft materials fabrication will be discussed.

3 semester credits

BIOMEDICAL ENGINEERING 563 (BMEG/MEEG 563)

Polymer Nanocomposites

A great deal of emphasis is put on you getting exposure to the growing field of nanocomposite materials and their biomedical engineering applications. This exciting field is constantly evolving. New composite materials are always being developed and their commercial impact is beginning to be seen. Hence many biomedically relevant nanocomposites such as biogels, bones, cartilages etc and their bioinspired analogs will be covered. The processes pertaining to in-situ and ex-situ nanocomposites, many antibacterial nanoparticle syntheses and their use in devise will be covered in detail. Students will learn the structure and properties of polymers. Polymer-carbon nanotube, polymer-graphene and polymer-nanoparticle based nanocomposites will be discussed. Design and development of mechanical, thermal, electronic and multifunctional nanocomposites are their direct and indirect interfaces with natural and synthetic biological structures will be discussed.

3 semester hours

BIOMEDICAL ENGINEERING 565 (BMEG 565/ELEG 565)

Biomedical Materials and Engineering

This course introduces the student to the progress of biomaterials used in biomedical engineering. Starting from early civilization biomaterials, this course discusses modern advanced level biomaterials and their engineering principles associated with their biomedical use. Hip, knee prostheses, implants, grafts, sutures, stents, catheter materials, and their application in Biomedical Engineering are covered. Designed biomaterials such as silicones, polyurethane, Teflon, hydrogels, bionanocomposites are detailed. Modern biology and biomedical engineering such as protein absorption, biospecific medical materials, nonfouling materials, healing and foreign body reaction, controlled release, etc., are discussed. Surface-immobilized biomolecules in patterned surfaces are explained with specific examples for the

use of immobilized biomolecules, immobilized cell ligands, and immobilization methods. Recent advances in biomedical engineering from the perspectives of inkjet printing of cells and tissues for 3Dmedical textiles, nanofibers and films in biomedical engineering by electrostatic spinning, bio-inspired materials through layer by layer (LBL) assembly and biogels and advanced instrumentations in biomedical engineering are updated. Artificial red blood and skin substitutes, orthopedic biomaterials applications adhesives and sealants, diagnostics, biomedical sensors, extracorporeal artificial organs and ethical issues of biomedical engineering are discussed.

3 semester hours

BIOMEDICAL ENGINEERING 567 (BMEG/MEEG 567X)

Physiological Fluid Dynamics

There is a great and vital difference between the transport processes in the human body from other engineering systems. A thorough understanding of physiological fluid mechanics is essential for innovation in medical assist and monitoring devices. Emphasis in this course is placed on assist devices, flow and thermal measurements, modeling for engineering application, and understanding application to biomedical problems.

3 semester hours

BIOMEDICAL ENGINEERING 580 (BMEG 580)

Tissue Engineering

The objective of this course is to provide students a foundation for the understanding of cell based systems needed for tissue engineering. The structure-property-function relationships in normal and pathological mammalian tissues will be covered. A review of the current development of biological substitutes to restore, maintain, or improve functions that includes strategies to regenerate metabolic organs and repair structural tissues, as well as cell-based therapies to deliver proteins and other therapeutic drugs will be discussed. There are a variety of very important materials issues in tissue engineering, which will be discussed in detail. Cells adherence to the extracellular matrix materials in the body and their enormous effect on cell behavior will be detailed. The physical and chemical properties of these materials will be examined and important materials used in tissue engineering will be discussed

3 semester hours

COMPUTER SCIENCE 551 (CPSC 551)

Technology Management Doctoral Seminars

Advanced Database Design

This course introduces database design with an emphasis on systems (as opposed to applications). Topics include relational model, SQL, database normalization techniques, data storage and indexing, query evaluation and optimization, physical database design, and transaction management.

3 semester hours

Information Analytics, Technology and Decision Support Systems

It is assumed that individuals taking this focus area will have the appropriate academic and business/industrial/STEM background. Those people not having the needed background will be responsible for taking necessary prerequisite courses, which will not count toward the minimum classroom hours required for the Ph.D. degree. Students are expected to have a working knowledge of statistics and a combination of information technology and computer science courses.

COMPUTER SCIENCE 546 (CPSC 546)

Services Oriented Architecture

This course covers Service-Oriented Architectures as well as associated technologies such as XML processing, Web Services and Ajax. SOA is an approach to building a set of web services such that larger applications are exposed as smaller service modules (web services) that also allow integration via service composition mechanisms to build newer, useful larger applications. SOA is an evolution of distributed object computing and utilizes the messaging design pattern between web services. An application's business logic (middle-tier), or data related functions are modularized and presented as services for consumer/client applications. These services in a proper SOA design are loosely coupled in nature; i.e., the service interface is independent of the implementation. Application developers can build newer applications by composing one or more services without knowing the services' underlying implementations. This course not only presents the concepts behind proper SOAs, but also covers the technologies such as WCF (based on latest WS-* specifications) needed to practically build such architectures.

3 semester hours

COMPUTER SCIENCE 551 (CPSC 551)

Advanced Database Design

This course introduces database design with

an emphasis on systems (as opposed to applications). Topics include relational model, SQL, database normalization techniques, data storage and indexing, query evaluation and optimization, physical database design, and transaction management.

3 semester hours

COMPUTER SCIENCE 555 (CPSC 555)

Web-based Application Development

This course provides an introduction to fundamental issues in designing a web-based application. Review of the web technologies such as HTML, VBScript, DHTML, Java, XML and server-side technologies using Active Server Pages (ASP), CGI and Java Server Pages (JSP). Design issues include the creation of tiered and scalable applications by the use of COM+ components involving Microsoft Transaction Server and the Java Beans. Different projects are assigned to create dynamic, database-driven E-Commerce solutions involving, order tracking systems, inventory systems, inventory management, advertising management, creating score reports, personalizing the shopping experience and secure credit card transactions. Wireless E-Commerce applications and developing business-to-business applications using XML, SOAP and Biztalk Servers.

3 semester hours

COMPUTER SCIENCE 556(CPSC 556)

Data Mining

This course is dealing with basic concepts, tasks, methods, and techniques in data mining. The focus is on various data mining problems and their solutions, such as association rule, classification, and clustering analysis. Students will learn various techniques for data mining, and apply the techniques to solve data mining problems. The following topics will be discussed in this course Introduction of Data Mining, Mining Frequent Patterns, Associations, and Correlations, Classification and Prediction, Cluster Analysis, Mining Stream, Time-Series, and Sequence Data, Graph Mining, Mining Spatial, Multimedia, Text and Web Data and Applications and Trends in Data Mining.

3 semester hours

COMPUTER SCIENCE 562 (CPSC / CPEG 562)

Information Assurance

This course covers both the principles and practice of information assurance. The topics include law and ethics of information security, intrusion detection, firewall & trusted computing, trust management, authentication & biometrics, authorization and access control, web

security, web service security, privacy issues, principles & practices of IT auditing, information systems security professional certification (CISSP). The basic issues to be addressed by information assurance are explored through a tutorial and survey of law and ethics at the very beginning of the course. Then, the detailed practice of information assurance is explored via practical aspects as well as applications that have been used and implemented nowadays.

3 semester hours

COMPUTER SCIENCE 571 (CPSC / CPEG 571)

Internet Computing

This course discusses the principles and practices of computing problems over the Internet. This course focuses on the Internet as a domain for sharing information and resources with cloud systems. The topics include distributed systems, World Wide Web, the browser-cloud computing model, cloud systems, information retrieval and search technologies, multi-agent systems, web usage mining and personalization, social networks, peer-to-peer technologies, and semantic webs. Foundations of Internet computing and how to use modern technological frameworks to develop various Internet-based applications are covered by this course. Application areas include finance and e-business, government services, scientific computing, bioinformatics, collaborative computing, multimedia applications, and file-sharing systems. This course is not intended to be a course on web site development.

3 semester hours

TECHNOLOGY MANAGEMENT 520 (TCMG 520)

Information Systems Development and Design.

This course focuses on the analysis, design, and development of business systems. Students will learn a variety of development models and tools available for systems development, deployment and management. The role of all systems constituents is addressed through discussion of the specification, decision-making, and review of designs, documentation, program specifications, and system improvement. Course level and content is suitable for managerial as well as the more technically oriented.

3 semester hours

TECHNOLOGY MANAGEMENT 521(TCMG 521/ ITKM 505)

Information Systems and Knowledge Management

The purpose of this course is to acquaint the students with some of the organizational and management issues surrounding the emergence of information and knowledge as key factors in developing and maintaining a

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competitive advantage for firms. The course is organized around two ideas, 1) knowledge as a manageable asset, and 2) why people in organizations sometimes don't use what they know. A basic assumption of the class is that organizations are complex adaptive systems operating in highly competitive, information and knowledge rich environments.

3 semester credits

TECHNOLOGY MANAGEMENT 533 (TCMG 533)

Information Technology Strategy and Governance

This course covers information technology plans, strategy, business/IT alignment, governance, environmental, ethical, economic, regulatory, compliance and technical issues and trends with a focus on planning, organizing, justifying, controlling, implementing and integrating concepts and real world experiences. It discusses business and IT balanced scorecards, metrics and key performance indicators. Current and emerging best business and technology strategy and governance best practice frameworks such as COBIT, CMMI, PMBOK, Kano, ITIM, Prince2, ITIL, select ISO standards and others will be covered with emphasis on lessons learned, critical success factors and pragmatic solutions. Individual and team projects and case studies are integrated into the course.

3 semester hours

TECHNOLOGY MANAGEMENT 540 (TCMG / MEEG 540)

Simulation and Modeling

The purpose of this course is to provide an in depth coverage of the use of simulation and modeling as an analysis tool for the study of production and distribution processes. The course aims to develop a sense of critical thinking, learning and problem solving. Topics include: problem formulation, data collection and analysis, random variable generation, and statistical analysis of output. Utilizes a major simulation language, SIMAN.

3 semester hours

TECHNOLOGY MANAGEMENT 549 (TCMG 549/ MGMT 548)

Business Intelligence and Decision Support Systems

Decision Support Systems (DSS) are interactive computer based systems that help decision makers understand and use data, models, and other analytical tools to evaluate their options. The course will focus on several aspects of DSS. Topics covered include Data-Driven systems, Model-Driven systems and Communications-Driven systems that help groups solve problems and Knowledge-Driven systems, and Document-Driven systems (expert systems).

This course will enhance the student's ability to understand the design and development of DSS with Web technology. Prerequisites: Completion of all required Information Technology and Knowledge Management required concentration courses or concurrent registration in final required concentration courses.

3 semester credits

TECHNOLOGY MANAGEMENT 568 (TCMG 568/ CPSC 568)

Foundation of Information Analytics

This course will introduce the foundation of Informatics. It will review how information sciences and computer technology can be applied to enhance research and practice in management and technology. The basic principles of informatics that govern communication systems, information retrieval, data mining, data warehousing support and evidence based business and technology decision support will be explored. Various Informatics tools will be covered.

3 semester hours

TECHNOLOGY MANAGEMENT 571 (TCMG 571/MGMT 571)

Foundations of Service Management and Engineering

This course integrates topics from economics, engineering, law, technology and organizational theory to deal with how firms change over time to become more service oriented or become service business and the mechanisms and tools by which they seek innovation and competitive advantage in the service sector. The services life cycle is reviewed. In addition, enabling technologies and how different disciplines help to answer questions about how business services combine, evolve, standardize and mature are covered.

3 semester hours

Manufacturing, Supply Chain and Logistics, Technology, Systems and Processes (Electives)

It is assumed that individuals taking this focus area will have the appropriate academic and business/industrial/application background. Those people not having the needed background will be responsible for taking necessary prerequisite courses, which will not count toward the minimum classroom hours required for the Ph.D. degree. Math skills that include calculus are required, and students are expected to have a working knowledge of statistics.

MECHANICAL ENGINEERING 512X (MEEG 512X)

Computational Fluid Dynamics

This course is intended as an introduction to the field of Computational Fluid Dynamics (CFD). Finite difference/finite volume methods will be introduced for solving Navier-Stokes and energy equations in heat transfer and fluid dynamics processes. This course will help students develop practical skills in Computational Fluid Dynamics and the use of commercial CFD packages, such as STAR-CCM+. Students will apply these skills to relevant engineering applications and gain an appreciation of the limitations and advantages of CFD modeling.

3 semester hours

TECHNOLOGY MANAGEMENT 524 (TCMG 524)

Statistical Quality Control Techniques

This course presents a comprehensive summary of methods for managing quality and continuous process improvements. The course objective is to develop an operational familiarity with contemporary methods found to be effective. Topics covered include statistical process control, quality function deployment, concurrent design, the house of quality, the Taguchi method, Six Sigma, lean and others. It also covers continuous process improvement methodologies and techniques. This course is intended for those students who do not plan to specialize in quality management.

3 semester hours

TECHNOLOGY MANAGEMENT 530 (TCMG/ MEEG 530)

Foundations of Manufacturing Management

The objectives of the course are to understand and apply concepts and techniques in manufacturing management. The course includes the management of people (both traditional and high performance systems), lean manufacturing techniques as used on the factory floor, and recent concepts such as Factory Physics. The course focuses on those issues that are important in supervising and managing a modern manufacturing operation.

3 semester hours

TECHNOLOGY MANAGEMENT 534 (TCMG 534/ MGMT 535)

Strategic Sourcing and Vendor Management

This course covers the rewards and risks of outsourcing and vendor management and identifies where outsourcing should be used and not used. The objectives of the course are to help students understand how to plan, direct, manage and more effectively participate in outsourcing initiatives in terms of the feasibility of outsourcing (off-shore, near-shore, rural-shore, best shore), vendor selection, contract negotiation, vendor management and

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evaluation, risk assessment and terminating outsourcing deals.

3 semester hours

TECHNOLOGY MANAGEMENT 559 (TCMG 559/ MGMT 560)

Foundation of Business Process and Operations Management

Students in this course apply the methods to projects of their own design and choosing, employing systems designed for application to process management issues. Emphasis is put on quantitative and data-based problem-solving and decision-making processes applied by the professional manager for the improvement of product or service development quality and customer satisfaction. Business process improvement techniques such as lean, Six Sigma and others will be covered.

3 semester hours

TECHNOLOGY MANAGEMENT 572 /MECHANICAL ENGINEERING 572 (TCMG/MEEG 572)

Production Technology and Techniques

This course will introduce up-to-date technology, techniques and systems of the global manufacturing industry. American manufacturing situation would be analyzed and Japanese manufacturing success is also explored. Comprehensive and readable description of manufacturing practice is researched.

3 semester hours

TECHNOLOGY MANAGEMENT/MECHANICAL ENGINEERING 573 (MEEG/ TCMG 573/MKTG 565)

Supply Chain Management

This course aims at not only covering high-level supply chain strategy and concepts, but also to providing students with a solid understanding of the analytical tools, to understand supply chain design, planning, and operation driven the performance of a firm. It also conveys how supply chain drivers used on a conceptual level during supply chain design and operation leading to performance improvement.

3 semester hours

TECHNOLOGY MANAGEMENT / MECHANICAL ENGINEERING 574 (MEEG/ TCMG 574)

Principles of Logistics

This course presents materials management, logistics theory and concepts in today's manufacturing and commercial environments. It integrates all of the functional areas of the business as well as incorporating logistics into corporate operation. They are examined in light of how they interrelate with other functions for the firms.

3 semester hours

MECHANICAL ENGINEERING 575 (MEEG 575)

Manufacturing Strategy

This course provides the necessary strategic perspective for manufacturing managers' sights and sustaining manufacturing excellence in the competitive manufacturing environment. The strategic perspective of manufacturing forms the approach that places these issues within the rightful context. It emphasizes the essential requirement to link with other functions in order to determine the best strategies for the business as a whole.

3 semester hours

TECHNOLOGY MANAGEMENT 577X (TCMG/MEEG 577X)

Lean Manufacturing

Lean manufacturing is a philosophy based on the elimination of waste in the production system. Use of various concepts such as flow, just-in-time, lead times, inventory turns, standardized work, pull systems, value streams, quick changeover, workplace organization, and visual controls are covered with the focus on improving manufacturing system performance.

3 semester hours

TECHNOLOGY MANAGEMENT 578X (TCMG 578X)

Six Sigma

Six Sigma is a methodology and set of quality management tools (especially statistical methods) used to improve the quality of process outputs, identifying and removing the causes of defects or errors and minimizing variability in manufacturing and business processes. This course teaches the core methods and philosophy of Six Sigma. Develop the leadership skills needed to drive Six Sigma and change effectively.

3 semester hours

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Acupuncture Practice and Techniques (APT):

The ten (10) acupuncture courses introduce students to the theoretical and practical information of acupuncture therapy. The student becomes proficient in the clinical applications of acupuncture, moxabustion, cupping, electrical stimulation, and bleeding techniques. The student learns to identify acupuncture points by anatomical location, palpation, and proportional measurement. The classification, function and indications for each acupuncture point are discussed

and demonstrated. In addition to the twelve bilateral channels, two midline vessels and six other extra meridians, forbidden and contraindication of points are discussed. In addition, extra points, auricular points and other categories of acupuncture points are demonstrated and treatment techniques based on these extra meridians and points are discussed and practiced.

APT 511

Point Location 1

This course will serve as the foundation of the acupuncture point selection series. Meridian theory using concepts of the Jing Luo system, including main and secondary vessels will be reinforced. This course provides the student with the knowledge and skills to physically locate acupuncture points of the lung, large intestine, stomach and spleen, heart and small intestine, urinary bladder, kidney, and pericardium channels. Students will focus on how to locate points effectively, accurately, and quickly as preparation for clinical application as well as college and national examinations. Students will also learn the major function(s) and indication(s) of the Lung, Large Intestine, Stomach, Spleen, Heart, Small Intestine, Urinary Bladder, Kidney and Pericardium channel points. Co-requisite/Prerequisite: ATD 513 TCM Diagnosis 1, ABS 511 Anatomy 1.

1.5 lecture hours, 1 laboratory hour, 2 semester credits.

APT 523

Point Location 2

This is a continuation of the previous course and will focus on the Triple Warmer, Gall Bladder, Liver, Governing Vessel ("Du"), Conception Vessel ("Ren") and extra points. Additional instruction is given in regional point selection and point combinations. Prerequisites: ATD 513 TCM Diagnosis 1, ABS 511 Anatomy 1.

1.5 lecture hours, 1 laboratory hour, 2 semester credits.

APT 525

Meridian Theory

Meridian (a.k.a. Channel) theory is the basis of diagnosis and acupuncture treatment. This course is designed to provide the necessary instruction and training for the student to be familiar with meridian theory including regular, extra and other meridian systems. Corequisite/Prerequisite: ATD 512 TCM Theory and ATD 513 TCMDiagnosis 1.

2 lecture hours, 2 semester credits.

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AWB 501

UBAI Clinic Safety Procedures

This course prepares the student for being able to perform in the UBAI clinic. HIPPA, Occupational Safety and Health Administration (OSHA) standards, UBAI clinic specific safety practices and procedures are presented. The student will practice safe and proper needle removal, pole moxibustion, and electrical stimulation needle techniques. The student will be shown and will practice clinic room set and clean-up procedures and patient draping. A review of fire safety and personal safety procedures will be offered. Completion of this course and passing the clinic HIPAA and OSHA BBP quizzes is required before performing any duties in the UBAI clinic. Prerequisites: none. *0.5 lecture hours, 0.5 semester credits.*

AWB 521

TCM Safe Practices

This course prepares the student for emergency situations both in and out of the office. CCAOM Clean Needle Technique and a review of Occupational Safety and Health Administration (OSHA) standards are presented. In addition the student will practice safe and proper needling, moxabustion, electrical stimulation and cupping techniques. Allopathic treatments along with natural remedies for common complications of acupuncture and related therapies are discussed. CPR certification in emergency procedures is achieved. Prerequisites: none. *1 lecture hour, 1 lab hour, 1.5 semester credits.*

APT 614

Acupuncture Techniques 1

This course covers the basic principles of acupuncture treatment for diseases involved with different pathogenic factors, tissues and organs. Special point selection based on Root-Branch, Origin-End, Path of Qi, Five Element and Eight Parameter diagnoses are covered. Indications and contraindications of moxibustion, scalp acupuncture and electrical acupuncture stimulation are covered. Prerequisites: APT 511 and APT 523: Point Location I and II. *2 lecture hours, 2 laboratory hours, 3 semester credits.*

APT 625

Acupuncture Techniques 2

This course covers functions, indications and needling methods of the Well, Spring, Stream, River, Sea, Source, Luo, Xicleft, Back Shu, Front Mu and Lower He-Sea, Eight Influential, Eight Confluent and important crossing points. Continuing practice in needling, moxibustion and

cupping techniques is included. In addition, the prevention and treatment of acupuncture complications is covered. Prerequisite: APT 614 Techniques I.

2 lecture hours, 2 laboratory hours, 3 semester credits.

APT 626

Auricular & Scalp Acupuncture

This course introduces the student to various forms of microsystem acupuncture, focusing on auricular and scalp systems. The student learns the respective maps of the scalp and ear, clinical applications and treatment strategies. Corequisite/Prerequisite: APT 614 Acupuncture Techniques I, *1 lecture hour, 1 semester credit.*

APT 718

Pediatric Acupuncture

The special diagnostic and treatment skills required for the treatment of patients less than 12 years of age are discussed. The balance of safety for the patient and treatment efficacy is emphasized. Prerequisite: ATD 524. *1 lecture hour, 1 semester credit.*

APT 637

Japanese Acupuncture Techniques

This course covers the unique treatment strategies and protocols developed by Japanese acupuncture masters. Prerequisite: APT 614 Acupuncture Techniques I. *1 lecture hour, 1 semester credit.*

Asian Medicine Theory, Diagnosis and Application (ATD):

The thirteen (13) traditional Chinese medicine theory and diagnosis courses are designed to provide the student with an understanding of the scope, philosophy, theory and conceptual frame work of Chinese medicine and how acupuncture and related treatments specifically affect the body within the TCM treatment paradigms. Emphasis is placed on Traditional Chinese Medicine (TCM) diagnoses and effective treatment strategies.

ATD 511

TCM History and Philosophy

The student studies the different eras of Chinese history and the effects on Traditional Chinese Medicine theories. This course includes the study of the development of Naturalism, Philosophical and Religious Taoism, Confucianism, and Buddhism and their contributions to Chinese Medicine. For each philosophy, the course examines how the philosophy views

the human relationship to nature, and the human relationship to the universe. In addition, the impact of philosophy and religion on the TCM medical paradigm is explored. Prerequisite: none.

1 lecture hour, 0 laboratory hours, 1 semester credit.

ATD 512

TCM Medical Theory

This course includes the classic theories of yin and yang and the Five phases that are fundamental to understanding the TCM medical relationship between humans and the universe. Normal physiology is studied through the fundamental substances (Qi, Blood, Essence, Spirit and bodily fluids), and organs. The basic theory of illness and diagnosis using four examinations (sight, listening and smelling, palpation, and asking) and Eight parameters are covered. Co/Pre-requisites: Anatomy and Physiology.

2 lecture hours, 2 semester credits.

ATD 513

TCM Diagnosis 1

The basic theory and characteristics of the pathogenesis and pathogenic factors are covered including the seven emotions, disharmony of Yin and Yang, abnormalities in Qi, Blood, Spirit, Essence and Bodily fluids, and organ (zang-fu) disharmonies are covered. Techniques in inquiry, palpation, tongue and pulse diagnosis are covered. Diagnoses incorporating the eight parameters as well as root and stem concepts are covered for each of the twelve zang-fu. Prerequisite/Co-requisite: ADT 512 TCM Medical Theory. *2 lecture hours, 2 semester credits.*

ATD 524

TCM Diagnosis 2

This course will provide the student with further understanding of Traditional Chinese Medicine diagnosis, expanding on concepts from TCM Diagnosis I. Traditional Chinese Medicine organ diagnoses, eight principle and febrile disease diagnoses will be stressed. In addition, treatment principles and acupuncture treatments based on these diagnostic systems will be explored. Differential diagnoses of common disease entities will be explored. Students will also continue to practice pulse and tongue diagnosis. Prerequisite: ADT 513 TCM Diagnosis 1. *2 lecture hours, 2 semester credits.*

ATD 526

Seminar 1

Traditional Chinese Medicine

This course will help the student to negotiate their first year in the Acupuncture program. The student will be guided through overviews of Chinese Medicine as preparation for integrating material from the entire curriculum. The student will review and update Chinese Medical terminology as well as the range of resources and the different perspectives on this terminology and the concepts contained therein. Diagnostic practical skills such as pulse and tongue diagnosis will be reviewed in a practical group setting. In addition the student will apply concepts of information literacy and its use case studies. Prerequisites: none.

1 lecture hour, 1 semester credits

ATD 529

Seminar 2

This course will be a continuation of seminar one. The student will be guided through the application and integration of concepts and skills acquired in the first and second semester curricula. The student will apply these through the use of case studies and clinical examples. The basics of applying diagnosis and generation of treatment principles will be reinforced in a collegial setting. Group activities such as case analysis, pulse and tongue analysis and grand rounds will also be reviewed with a deepening understanding of clinical applications of such. Prerequisites: ATD 515.

1 lecture hour, 1 semester credits

ATD 618

Seminar 3

This course will help the student gain a deeper understanding of case study skills necessary to become a TCM clinical practitioner. The student will be guided through case study, case analysis and pattern differentiation as utilized in clinical practice as preparation for integrating material from the entire curriculum into the clinical setting. Case presentations and clinical skills utilizing a problem based learning format using TCM principles and evidence-informed clinical practice skills are emphasized. The focus of the case studies for this course is mental/emotional disorders, patterns associated with emotional disorders, and the impact of emotional issues in the acupuncture clinic. In addition, the student will gain a basic understanding of the ethical and counseling issues surrounding licensed practice in the field of Traditional Chinese Medicine. Prerequisites: ATD 529.

1 lecture hour, 1 semester credits.

ATD 711

Differential Diagnosis and Pathomechanisms

This course compares and contrasts diagnosis and treatment between Western and TCM diagnoses. Western medical diagnosis of these diseases is incorporated so that the student is able to collaborate with western physicians. Major and common categories of diseases including respiratory tract, infectious, gastrointestinal, genitourinary and musculoskeletal diseases are covered. Prerequisite: ADT 513 TCM Diagnosis I.

2 lecture hours, 2 semester credits.

ATD 715

TCM Internal Medicine

This course focuses on the diagnosis and TCM treatment of major illness. Treatment planning includes acupuncture, qi gong, and massage. Diagnoses cover respiratory illnesses, gastrointestinal, genitourinary, gynecological, and psychological illnesses. Root-stem, Meridian, Substance and 5 Element treatments are included. Prerequisite: ATD 513 TCM Diagnosis I.

2 lecture hours, 2 semester credits.

ATD 717

Advanced Tongue and Pulse Diagnosis

This course is designed to increase the diagnostic skills and clinical applications of these uniquely TCM diagnostic parameters. The student studies healthy and diseased tongues and pulses and discusses how findings in these areas change the treatment principles and strategies. Case studies from the clinical education are used to increase both depth and breadth of skill. Prerequisite: ATD 524: TCM Diagnosis 2

1 lecture hour, 1 semester credit.

ATD 727

Case Studies 1

The student will be guided through case study, case analysis and pattern differentiation as utilized in clinical practice as preparation for integrating material from the entire curriculum into the clinical setting. Case presentations and clinical skills are emphasized through a problem based learning format using TCM principles as the foundation. Emphasis for this class is on cases associated with problems of fluid dynamics and chronic pain, which are frequent chief complaints in the TCM clinical setting. Prerequisite: ATD 529 Seminar 2.

1 lecture hour, 1 semester credit.

ATD 728

Case Studies 2

Students learn to transition from the develop-

ment of pattern diagnosis to TCM treatment principles which then lead to point and modality applications. Emphasis is placed on an accurate assignment of symptoms to pattern diagnosis; logical treatment principles reflecting the priorities and totality of the patterns diagnosis; and the most efficacious acupuncture point and adjunctive modality prescriptions to help the patient achieve health. Prerequisite: ATD 529 Seminar 2.

1 lecture hour, 1 semester credit.

ATD 729

Acupuncture Gynecology

This course is designed to familiarize the student with TCM diagnosis and acupuncture treatments of common gynecologic conditions. Special emphasis is placed on understanding those points forbidden to needle or moxa in cases where the patient's pregnancy status is unknown. Prerequisite: ATD 524: TCM Diagnosis 2.

1 lecture hour, 1 semester credit.

ATD 742

TCM Geriatrics

This course is designed to familiarize the student with TCM diagnosis and acupuncture treatments that apply to elderly patients. Special emphasis is placed on understanding the physiological changes that affect the health of the elderly from both a TCM and biomedical perspective. Acupuncture and herbal treatments, their indications and contraindications will be discussed. Prerequisites: ATD 524 TCM Diagnosis 2, ATD 728 Case Studies 2, ACH 635 CH Formulae 1. 1 lecture hour, 1 semester credit.

Western Biomedicine (AWB)

The fifteen (15) biomedical courses are designed to train the student fully about western medical terms, history taking, physical exam and diagnostic skills. The student learns how to make the appropriate referral and consultation, as well as the clinical relevance of laboratory and diagnostic tests and procedures.

ABS 511

Anatomy 1

This course provides an in-depth study of the macroscopic human anatomy and covers the structure of the trunk and neck regions. Clinical aspects of the vascular and neurological relationships of these regions are emphasized. Instruction includes lectures and interactive

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media software. Prerequisite: none.
4 lecture hours, 4 semester credits.

ABS 522

Anatomy 2

This course is a continuation of Anatomy 1 and covers the structure of the head and extremities. Clinical aspects of the neurological and vascular relationships of these regions is emphasized. Prerequisite: ABS 511 Anatomy 1.
4 lecture hours, 4 semester credits.

ABS 515

Physiology 1

This course emphasizes the function of cellular structures which regulate homeostasis as well as their role in cell division and genetic control of protein synthesis. Emphasis is placed on the role of the cell membrane in the control of cellular events. The effects of physiology on hormones, their role in homeostasis, and the functional changes associated with homeostasis are considered. Prerequisite: none.
2 lecture hours, 2 semester credits.

ABS 525

Physiology 2

This course is a study of physiology at the organ and systems level. Included is the study of the circulatory, respiratory, renal, cardiovascular, gastrointestinal and urogenital systems. Also included is the study of the endocrine system and its interrelationships with various organs and systems. There is an integration of normal physiology with pathophysiology and clinical concepts. Prerequisite: ABS 515.
2 lecture hours, 2 semester credits.

AWB 523

Pharmacology

This course examines the most commonly used pharmacologic agents to be encountered in the clinical setting. The general principles of pharmacology (pharmacodynamics and pharmacokinetics) are covered. Uses and side effects of antibiotics, anti-inflammatory agents, hormones and cardiac drugs are surveyed. Drug-nutrient and drug-herb interactions are discussed. Prerequisite: none.
1 lecture hour, 1 semester credit.

AWB 725

Pharmacology 2

This course builds on the basic information in Pharmacology 1 to expand the student's understanding of pharmacology, including mechanisms of action; absorption, distribution, metabolism, and excretion (pharmacokinetics/pharmacodynamics); interactions with other drugs and with herbs/food; problems

with special populations (prenatal, neonatal, elderly); rational drug usage for clinical disorders (therapeutics); clinical effects of drugs (by category); and toxicology. Prerequisite: AWB 523 Pharmacology 1.
2 lecture hours, 2 semester credits.

AWB 621

Medical Ethics

This course is designed to provide the student with a basic understanding of the ethical issues surrounding practice in any medical field. Upon completion of this course, the student will be able to identify concepts of medical and professional ethics as they apply to the practice of health care. Prerequisites: none
1 lecture credit, 1 semester credit.

ACS 611

Pathology 1

This course is a study of the pathophysiological process and how this process alters the gross, microscopic and clinical manifestations of disease. Basic pathological processes of inflammation, repair, degeneration, necrosis, immunology and neoplasia are presented. Prerequisite: ABS 525 Physiology 2.
2 lecture hours, 2 semester credits.

ACS 624

Pathology 2

This course is the continuation of the pathological processes of various diseases. This course emphasizes the basis of systemic diseases of the cardiovascular, respiratory, gastrointestinal, urogenital, endocrine, hepatobiliary, renal and pancreatic systems. Prerequisite: ACS 611 Pathology 1.
4 lecture hours, 4 semester credits.

ACS 612

Clinical Diagnosis 1

This course covers the techniques used for physical examination for various systems of the body. Skills taught develop an appreciation for normal variations and abnormalities associated with disease states. The student is taught to recognize the signs and symptoms of common diseases. Prerequisites: ABS 511, ABS 521, ABS 515, ABS 252.
3 Lecture hours, 2 lab hours, 4 semester credits.

ACS 623

Clinical Diagnosis 2

This course is a continuation of Clinical Diagnosis 1. Prerequisite: ACS 612.
3 lecture hours, 2 lab hours, 4 semester credits.

ACS 613

Lab Diagnosis 1

This course introduces the student to the appropriate use and interpretation of laboratory tests. Prerequisites: ABS 521 and ABS 525.
2 lecture hours, 2 semester credits.

ACS 626

Laboratory Diagnosis 2: Nutritional and functional analyses

This course will educate the student on nutritional assessment to include health, diet and lifestyle history, physical measurements, and laboratory testing to include analysis of blood, stool, saliva and urine. The course will integrate use of these measurements in the design of an appropriate nutritional protocol for the client. The student will also learn effective client management and follow-up. Prerequisites: Clinical Diagnosis 1, Lab Diagnosis 1.

ANT 521

Nutrition

This course provides the foundation for therapeutic nutrition. It explores the biochemistry of macronutrients as well as vitamins and minerals. Deficiencies, toxicities, therapeutic uses and appropriate doses are examined. An assessment of dietary needs and the application of therapeutic nutrition in treating individual diseases and syndromes are also taught. Prerequisites: none.
2 lecture hours, 2 semester credits.

ACS 625

Physical Exam Skills

This course helps students develop the skills necessary to conduct screening physical exams and specialty exams useful in the ambulatory practice. The student will learn the appropriate exam and physical diagnostic procedures that correspond with the patient's chief complaint and medical history. Clinical decision making and identification of clinical red flags are emphasized. Physical examination skills: Cardio, Chest/Pulmonary, Abdomen/GI, Neuro, General screening exam, physical exam of the spine, physical exam of the major joints (shoulder, elbow, hip, knee, foot). Prerequisite: ACS 612 Clinical Diagnosis 1.

Asian/Chinese Herbology (ACH)

The ten (10) courses in Chinese Herbology offer the student a thorough understanding of Chinese Materia Medica, Classical and Patent formulas and modifications, and the clinical application of Chinese herbs and formulae. The student becomes proficient

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in the theories pertinent to Chinese Herbal Medicine and the clinical applications of Chinese materia medica for a wide variety of clinical situations and patient populations. At the completion of the 10 course survey, students will have learned over 300 individual herbs and over 150 different classical and patent formulae.

ACH 511

Chinese Formula and Constituents 1

The student will explore the traditional Chinese Medicine Materia Medica in depth and learn to discriminate between herb categories, their general applications and associated Treatment Principles and individual, unique applications, signs and symptoms. The student will explore at least 100 herbs. This course will focus on herbs from the Release Exterior, Clear Heat, and Drain Downwards categories. In addition at least 10 representative formulae that reflect these categories will be investigated. This course will serve as partial basis for the formulae courses. Prerequisites: ATD 524 TCM Diagnosis 2.

2 lecture credits, 36 hours

ACH 512

Chinese Formulae and Constituents 2

The student will explore the traditional Chinese Medicine Materia Medica in depth and learn to discriminate between herb categories, their general applications and associated Treatment Principles and individual, unique applications, signs and symptoms. The student will explore at least 100 herbs. This course will focus on Herbs from the Regulate Qi, Regulate and Invigorate Blood, Warm Interior and Expel Cold, Tonify (Qi and Blood) categories. In addition at least 10 representative formulae that reflect these categories will be investigated. This course will serve as partial basis for the formulae courses. Prerequisites: ATD 524 TCM Diagnosis 2.

2 lecture credits, 36 hours.

ACH 523

Chinese Formulae & Constituents 3

The student will explore the traditional Chinese Medicine Materia Medica in depth and learn to discriminate between herb categories, their general applications and associated Treatment Principles and individual, unique applications, signs and symptoms. The student will explore at least 100 herbs. This course will focus on Herbs from the Drain Damp, Transform Phlegm and Stop Cough, Aromatic Herbs that Transform Damp, Food Stagnation categories. In addition at least 10 representative formulae that reflect these categories will be

investigated. This course will serve as partial basis for the formulae courses. Prerequisites: satisfactory progress in first year curriculum. Co/Prerequisites: ACH 512 Chinese Formulae and Constituents 2

2 lecture credits, 36 hours.

ACH 524

Chinese Formulae and Constituents 4

The student will explore the traditional Chinese Medicine Materia Medica in depth and learn to discriminate between herb categories, their general applications and associated Treatment Principles and individual, unique applications, signs and symptoms. The student will explore at least 100 herbs. This course will focus on Herbs from the Tonify (Yang and Yin), Stabilize and Bind, Calm Shen, Aromatic Substances to Open Orifices, Extinguish Wind and Stop Tremors, Expel Parasites, External Applications categories. In addition at least 10 representative formulae that reflect these categories will be investigated. This course will serve as partial basis for the formulae courses. Co/Prerequisites: ACH 512 Chinese Formulae and Constituents 2.

2 lecture credits, 36 hours.

ACH 617

Chinese Formulae 3

This course will be a continuation and amplification of the previous herbal curriculum with an emphasis on herbal formulae. The student will explore at least 80 formulae including reiterating and expanding content from previous courses. This course will focus on formulae that Stabilize and Bind, Calm the Spirit, Open the Sensory Orifices, Regulate Qi, Regulate Blood, Expel Wind, Treat Dryness, Expel Dampness, Dispel Phlegm, Reduce Food Stagnation, Expel Parasites, Treat Abscesses and Sores, and for External Application. The student will learn the name, actions, indications, cautions and contraindications of the classical base formulae according to the traditional categorization based on treatment principles. In addition the student will explore the traditional structure of herbal formulae as a prelude to formula modification (general, assistant, etc.). In addition the student will review and reiterate content from the Formulas and their constituents. Prerequisites: ACH 635

2 lecture credits, 36 hours.

ACH 619

CH Internal Medicine & Modifications 1

This course will be a continuation and amplification of the previous herbal curriculum with an emphasis on internal medicine applications of herbal formulae. The student will reexam-

ine previously studied herbs and formulae from previous courses with special attention to clinical application and formula modification according to clinical presentation. Prerequisites: ACH 636

2 lecture credits, 36 hours.

ACH 628

CH Internal Medicine & Modifications 2

This course will serve as a companion course to ACH 619. This course will be a continuation and amplification of the previous herbal curriculum with an emphasis on internal medicine applications of herbal formulae. The student will reexamine previously studied herbs and formulae from previous courses with special attention to clinical application and formula modification according to clinical presentation. Prerequisites: ACH 617, ACH 619

2 lecture credits, 36 hours.

ACH 635

CH Formulae 1

This course will be a continuation and amplification of the previous herbal curriculum (ACH 511, ACH 512, ACH 523, ACH 524) with an emphasis on herbal formulae. The student will explore at least 30 formulae including reiterating and expanding content from previous courses. This course will focus on formulae that Release the Exterior, Clear Heat, and Drain Downward. The student will learn the name, actions, indications, cautions and contraindications of the classical base formulae according to the traditional categorization based on treatment principles. In addition the student will explore the traditional structure of herbal formulae as a prelude to formula modification (general, assistant, etc.). In addition, the student will review and reiterate content from the formulas and their constituents. Prerequisites: ACH 511, ACH 512

2 lecture credits, 36 hours.

ACH 636

Chinese Formulae 2

This course will be a continuation and amplification of the previous herbal curriculum (ACH 511, ACH 512, ACH 523, ACH 524) with an emphasis on herbal formulae. The student will explore at least 30 formulae including reiterating and expanding content from previous courses. This course will focus on formulae that Harmonize, Dispel Summerheat, Warm Interior Cold, Release Exterior-Interior Excess, and Tonify. The student will learn the name, actions, indications, cautions and contraindications of the classical base formulae according to the traditional categorization based on treatment principles. In addition, the student will explore the traditional structure of herbal

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formulae as a prelude to formula modification (general, assistant, etc.). Prerequisites: ACH 511, ACH 512, ACH 523, ACH 524
2 lecture credits, 36 hours.

AHM 641

CH Special Topics

This course will explore special topics in TCM herbal medicine. These will include but not be limited to dui yao (herb combinations and modules), external applications, pediatrics, classical formulae from seminal texts. Content will also reflect the availability of special guest lecturers. A capstone project is required for completion of the course. Prerequisites: ACH 619
2 lecture credits, 36 hours.

Herbal Medicine Survey (AHM)

The seven (7) courses in herbal medicine and dietetics give the student a basic introduction to Chinese pharmacy and dispensary practices, common OTC North American botanicals, the ethical consideration of utilizing sparse resources, and TCM clinical diet therapies. Information in the western botanical and pharmacy classes provides clear information regarding indications, contraindications and drug-herb interactions. The ethical and ecological impacts of TCM materia medica on the health of the individual and the world are explored. In addition, the two courses in dietetics and nutrition help the student understand the role of nutrition in patients' health. (Note that the course in western nutrition is listed under Western Biomedicine: ANT 521 Nutrition.)

AHM 634

Dispensary Management

This course will develop knowledge and skills related to TCM dispensary management. Students will learn how to support the clinical and health promotion work of the peripheral dispensary by keeping all needed support systems running well. Prerequisites: none
1 lecture credit, 18 hours.

AHM 635

Pharmacognosy and Pharmacology of Chinese Herbs

Chinese material medical are often prescribed in complex formulae. Understanding the chemistry, interactions, extraction methodology, and drug interactions allows AOM practitioners better insights to possible adverse effects, from drug-herb interactions, herb toxicities to lack of expected (or any) outcomes from prescribed formulae. Several recorded incidents

of adverse reactions have occurred to Chinese herbs over the past 12 years. In most cases, the incidents have involved multiple patients consuming the same or similar substance, rather than isolated case reports. It is important to review the unique aspects of Chinese medicine which are of relevance to understanding these issues. Prerequisites: ACH 523 Chinese Herbal Theories & Triple burner theories.
1 lecture credit, 18 hours.

AHM 612

Introduction to Chinese Herbal Remedies.

This survey course introduces the student to the diagnostic and treatment strategies specific to TCM herbal therapies. The student is introduced to major herbs and formulas of China, their uses, contraindications and drug-herb interaction. Patient safety issues are also addressed. Prerequisite: ATD 513 TCM Diagnosis 1.
1 lecture hours, 1 semester credit. 18 hours

AHM 616

Ethical and ecological considerations of Chinese materia medica

The traditional practice of using endangered species (plant and animal) is controversial within TCM. Comprehensive Chinese herbal textbooks often discuss substances derived from endangered species, emphasizing alternatives. Poaching and black market issues with animal products, particularly tiger bone, rhinoceros horn, seahorse and bear bile have all raised ethical and ecological concerns in the use of Traditional Chinese formulae. In this course, we will discuss the ethical and ecological impacts of TCM materia medica on the health of the individual and the world. Prerequisites: none
1 lecture credit, 18 hours.

AHM 613

Traditional Chinese Dietetics

This class introduces the student to the eastern understanding of how food influences human health. Foods and food products are surveyed according to Asian categorization. Food groups are categorized by nature, temperature, taste, element, indications and contraindications. Treatment of the major categories of organ (zang-fu) disorders using foods and food combinations are covered. Prerequisite: ADT 513 TCM Diagnosis I.
2 lecture hours, 2 semester credits.

AHM 521

Botanical Medicine

This course comprises a survey of plant and plant preparations most commonly used in Western traditions. The actions of the plant and plant products, as well as drug-herb in-

teractions are considered. Prerequisites: ABS 515, ACS 611.

3 lecture hours, 3 semester credits

AHM 713

Patent Remedies.

This course will survey over 150 prominent, TCM, topical and internal herbal, patent formulas. Students will be introduced to pattern-specific uses of these formulas and subsequently, their contraindications, toxicities and potential drug interactions. Safety, legal, and manufacturing issues will also be highlighted. Prerequisite: AHM 612: Introduction to Chinese Herbal Remedies.
2 lecture hours, 2 semester credits.

Movement, Respiration and Bodywork Studies (AMR)

The seven (7) movement and respiration courses are designed to enhance the student's personal and energetic development. The student will be exposed to a wide variety of Asian movement practices that can be used to maintain their own and their patients' health care needs. In addition to the movement studies, courses in soft tissue treatment techniques are offered.

AMR 511

Taijiquan 1

This introductory course in therapeutic movement explores how musculoskeletal alignment, breathing, and mental awareness affect the meridians through practice of this traditional exercise. The emphasis is on analysis of how individual Taijiquan movements circulate Qi through specific meridians in accordance with TCM theory and clinical practice. The student also learns Taijiquan history and safety considerations. Prerequisite: none.
0 lecture hours, 1.5 laboratory hours, 1 semester credit.

AMR 522

Taijiquan 2

This is a continuation of Taijiquan 1. In addition to more advanced Taijiquan exercises for Qi circulation, the student learns basic application of Chinese therapeutic movement to the clinic setting. Prerequisite: AMR 511 Tai Ji Chuan 1.
0 lecture hours, 1.5 laboratory hours, 1 semester credit.

AMR 613

Qigong 1

This course teaches exercises designed to regulate specific meridians, muscles and joints as well as how to choose, integrate and teach

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the appropriate exercises in a clinic setting.
Prerequisite: AMR 522: Taijiquan 2.
0 lecture hours, 1.5 laboratory hours, 1 semester credit.

AMR 624

Qigong 2

This course is a continuation of Qi Gong 1. The student learns advanced exercises, meditations, and breathing exercises that can be applied both to the clinic setting as well as to the student's personal experience and development of Qi toward the goal of being a more effective TCM practitioner. Prerequisite: AMR 613 Qi Gong 1.

0 lecture hours, 1.5 laboratory hours, 1 semester credit.

AMR 627

Tuina 1

The student learns basic Tuina manipulation theory and techniques to treat acupoints, channels, and soft tissue as well as Qigong conditioning exercises that allow the student to implement Tuina manipulation safely and effectively. The course culminates in learning a Tuina full-body therapeutic protocol. Prerequisite: ABS 522 Anatomy 2.

1 lecture hour, 2 laboratory hours, 2 semester credits.

AMR 715

Tuina 2

This course is a continuation of Tuina 1. The student learns intermediate Tuina manipulation theory and techniques to treat acupoints, channels, and soft tissue. Tuina treatments for back pain and conditions of the upper limb are the primary focus. Prerequisite: ATD 513 TCMI Diagnosis 1 and APM 621: Palpation/Massage.

1 lecture hour, 2 laboratory hours, 2 semester credits.

AMR 726

Tuina 3

This course is a continuation of Tuina 2. The student learns advanced Tuina manipulation theory and techniques to treat acupoints, channels and soft tissue. Tuina treatments for the leg and internal conditions are the primary focus. Prerequisite: AMR 715 Tuina 2

1 lecture hour, 2 laboratory hours, 2 semester credits.

Counseling, Communications and Practice Management

The three (3) specific courses in this area

enhance the students' clinical skills, both in terms of diagnosing addressing patients' psychological health and in the area of best business practices. In addition, the courses of AWB 621 Medical Ethics, ACS 511 Evidence informed Clinical Practices, and ATD 618 Seminar 3 (cross listed in the ATD section) help students learn the fundamental skills needed for private practice, ethical and legal considerations in health care and special considerations for practice in integrated care settings.

APS 621

Psychological Assessment

The primary focus of this course is the diagnosis of the various psychiatric diseases according to the Diagnostic and Statistical Manual of Mental Disorders. Included are psychological assessment considerations and treatment modalities. Prerequisites: none.

2 lecture hours, 2 semester credits.

APP 721

Practice Management

Students are taught the current procedural practices for the operation of a private practice. In addition, the practical aspects of operating a practice as a small business are discussed. Students are encouraged to begin thinking about their personal career path as a complementary medicine practitioner in private practice, group practice, hospital-based practice or as an AOM educator. Prerequisites: none.

2 lecture hours, 2 semester credits.

APP 722

Professional Development:

This course will explore the issues associated with ongoing professional development. Professional development assists the acupuncture practitioner to develop the knowledge and skills necessary to further clinical competence and contribute to the body of knowledge in the field during practice after graduation. Prerequisites: ACS 631 Clinical Education 1.

1.5 lecture credits, 0 lab credits, 1.5 credits total.

ATD 617

Seminar 3

(see section above "Asian Medicine Theory, Diagnosis and Application")

Clinical Services (ACS)

The five (5) acupuncture clinical services courses, four (4) Chinese Herbology clinical services, and four (4) Integrative clinical services (for a total of fifteen – 15 – clinical

experience courses) are designed to allow the student to develop clinical, interpersonal communication and decision-making skills. In addition, students learn professional conduct, efficiency and confidence in dealing with patients on a regular basis. From inception through the end of clinical training, the student has the opportunity to observe and work with advanced TCM practitioners as well as other health care professionals. This allows the student to understand how and when to make appropriate referrals. Clinical rotations are available in the UBAI on-campus clinic as well as in community and hospital outreach clinical sites. In addition, four (4) courses offer clinical skills used for patient care and clinical procedures.

ACS 711

Preceptorship 1

The students observe and administer care in established acupuncture facilities under the supervision of licensed physicians and acupuncturists. This exposure to a variety of clinical settings helps prepare the student for both private practice and integrative patient care. Prerequisite: Completion of all first year courses.

0 lecture hours, 4 laboratory hours, 2 semester credits, 75 clock hours total.

ACS 722

Preceptorship 2

This is a continuation of ACS 671. Students increase their clinical skills working under a variety of health care professionals, all of whom must have the appropriate credentials to practice in the field of acupuncture. Prerequisite: ACS 671.

0 lecture hours, 4 laboratory hours, 2 semester credits, 75 clock hours total.

ACS 631

Clinical Education 1

Under the supervision of licensed faculty members, the interns start by observing patients for 30 clinic hours, then move into the area of direct patient care. All patient diagnoses and management plans are reviewed and approved by a clinic faculty member prior to the initiation of patient care. The student will begin to practice clean needle technique, removal and disposal of needles. The student will acquire proficiency in tongue and pulse diagnosis. Prerequisite: Pass Clinical Entrance Exam.

0 lecture hours, 12 laboratory hours, 8 semester credits, 245 clock hours total.

ACS 712

Clinical Education 2

Traditional Chinese Medicine

Students continue to administer care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Eligibility for the rotation is successful completion of the previous clinical rotation. Prerequisite: ACS 631 Clinical Education 1.

0 lecture hours, 12 laboratory hours, 8 semester credits, 215 clock hours total.

ACS 723

Clinical Education 3

Students continue to administer care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Eligibility for the rotation is successful completion of the previous clinical training rotation. Prerequisite: ACS 712 Clinical Education 2.

0 lecture hours, 12 laboratory hours, 8 semester credits, 220 clock hours total.

ACC 611

Chinese Herbal Clinic 1

Under the supervision of licensed faculty members, the interns start by observing patients for 20 clinic hours, then move into the area of direct patient care. All patient diagnoses and management plans are reviewed and approved by a clinic faculty member prior to the initiation of patient care. The student will begin to prescribe individual herbs and formulae for patient care. The student will acquire proficiency in TCM diagnostic techniques, as well as in understanding when specific herbs or formulae may not be prescribed based upon possible herb-drug interactions.

0 lecture hours, 4 lab credits, 130 clock hours total.

ACC 632

Chinese Herbal Clinic 2A

Students continue to administer Chinese herbal care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Eligibility for the course is successful completion of the previous clinical rotation. Prerequisite: ACC 611 Chinese Herbal Clinic 1.

0 lecture hours, 2 lab credits, 65 clock hours total.

ACC 723

Chinese Herbal Clinic 2B

Students continue to administer Chinese

herbal care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. In addition to utilizing prepared formulae, student interns now begin to mix herbal powders in individualized formulae. Eligibility for the course is successful completion of the previous clinical rotation. Prerequisite: ACC 611 Chinese Herbal Clinic 1. Co-Requisite ACC 632 Chinese Herbal Clinic 2A.

0 lecture hours, 2 lab credits, 65 clock hours total.

ACC 724

Chinese Herbal Clinic 3

Students continue to administer care to patients under the supervision of licensed faculty. Students will integrate herbal therapies with dietary advice and qi enhancement techniques. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Eligibility for the course is successful completion of the previous clinical rotation. Prerequisite: ACC 723 Chinese Herbal Clinic 2B.

0 lecture hours, 3 lab credits, 100 clock hours total.

ACS 811

Grand Rounds 1

This course is designed to train the AOM student to communicate effectively, orally and in writing, with patients and their families, colleagues, and others with whom health professionals must exchange information in carrying out their responsibilities in patient care. Prerequisites: ACS 731 Clinical Procedures, ATD 715 TCM Internal Medicine; ACC 611 Chinese Herb Clinic 1. Co-requisite: ACC 812 Integrated Clinical Education 1.

2 lecture credits, 0 lab credits, 2 credits total.

ACS 812

Integrated Clinical Education 1

Rotations in the Integrative clinic shifts combine AOM supervisors for AOM diagnosis and treatment with biomedical practitioners and other clinicians offering medical care in a variety of health settings. Students administer care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Prerequisites: ACS 712 Clinical Education 2; ACC 632 Chinese Herbal Clinic 2A.

215 hours; 150 patient visits; at least 90 hours in off-site clinics.

ACS 814

Integrated Clinical Education 2

This is a continuation of the integrative clinical training started in ACS 812. Rotations in the Integrative clinic shifts combine AOM supervisors for AOM diagnosis and treatment with biomedical practitioners and other clinicians offering medical care in a variety of health settings. Students continue to administer care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Prerequisites: ACS 712 Clinical Education 2; ACC 632 Chinese Herbal Clinic 2A. ACC 812 Integrated Clinical Education 1.

215 hours; 150 patient visits; at least 90 hours in off-site clinics.

ACS 823

Grand Rounds 2

This course is designed to train the advanced AOM student to communicate with other health care providers to determine an appropriate plan of care. This includes the ability to assess written diagnostic reports, including the range of values that distinguish normal from abnormal findings, as relevant to patient care and communication with other health care providers. Upon completion, the student will be able to discuss the clinical scope of AOM in an informed, authoritative, and appropriate manner. Prerequisites: ACS 811 Grand Rounds 1; Co-requisite: ACC 814 Integrated Clinical Education 2.

2 lecture credits, 0 lab credits, 2 credits total.

ACS 511

Evidence-Informed Clinical Practice in Acupuncture

The basic principles of clinical and laboratory research are examined with a special emphasis on the applications of acupuncture and TCM techniques in the research setting. Application of research to case evaluation will be emphasized. Prerequisite: none.

1 lecture hour, 1 semester credit.

ACS 724

Public Health

This course covers current environmental and public health concerns with an emphasis on the role of the acupuncturist in these issues. The course integrates health with diet, water and air pollutants, noise and substance abuse. Recognition of major communicable diseases is included. Prerequisite: ABS 525 Pathology 2.

2 lecture hours, 2 semester credits. (online course)

Offered: Spring semester

Traditional Chinese Medicine

ACS 641

Diagnostic Imaging

This course covers radiographic anatomy and diagnostic imaging techniques. A basic introduction to imaging, including roentgenology, computerized tomography (CT), magnetic resonance imaging (MRI), ultrasound, and bone scanning are discussed. The basic concepts of these techniques and their use in diagnosis are discussed. Prerequisites: ABS 522 Anatomy 2, ABS 525 Physiology 2.

ACS 731

Clinical Procedures

This course explores the clinical applications of the skills and knowledge learned to date for patient care in the UB Clinics. In addition, UB Clinics skills including using the electronic health system for charting, and communication with patients and other health providers in the UB Clinics is reviewed. Prerequisites: ACS 623 Clinical Dx 1, ATD 72 Case Studies 1, AWB 621 Medical Ethics.

0.5 lecture credits, 0 lab credits, 0.5 credits total.

ACS 715

Physical and Functional Assessments of the UB Health Sciences

This course is designed to teach the student general principles and practices of health care from the breadth of providers trained at the University of Bridgeport. The naturopathic, chiropractic, nutrition, dental hygiene and physician assistant history and scope of practice will be discussed. Practical applications of these disciplines in the area of physical and functional assessment of patients will be emphasized. Corequisites: ACS 623 Clinical Diagnosis 2, ACS 613 Lab Diagnosis 1.

Clinical Education (ACC)

The four (4) Chinese Herbology clinical services are designed to allow the student to develop clinical, interpersonal communication and decision-making skills. From inception through the end of clinical training, the student has the opportunity to observe and work with advanced TCM practitioners. Clinical rotations are available in the UBAI on-campus clinic as well as in community outreach clinical sites. By the end of clinical training, each student will have seen a minimum of 200 patient visits and will have completed 360 hours in the herbology clinic).

ACC 611

Chinese Herbal Clinic 1

Under the supervision of licensed faculty

members, the interns start by observing patients for 20 clinic hours, then move into the area of direct patient care. All patient diagnoses and management plans are reviewed and approved by a clinic faculty member prior to the initiation of patient care. The student will begin to prescribe individual herbs and formulae for patient care. The student will acquire proficiency in TCM diagnostic techniques, as well as in understanding when specific herbs or formulae may not be prescribed based upon possible herb-drug interactions. Prerequisite: *0 lecture hours, 4 lab credits, 130 clock hours total.*

tion of the previous clinical rotation. Prerequisite: ACC 723 Chinese Herbal Clinic 2B. *0 lecture hours, 3 lab credits, 100 clock hours total.*

ACC 632

Chinese Herbal Clinic 2A

Students continue to administer Chinese herbal care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Eligibility for the rotation is successful completion of the previous clinical rotation. Prerequisite: ACC 611 Chinese Herbal Clinic 1. *0 lecture hours, 2 lab credits, 65 clock hours total.*

ACC 723

Chinese Herbal Clinic 2B

Students continue to administer Chinese herbal care to patients under the supervision of licensed faculty. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. In addition to utilizing prepared formulae, student interns now begin to mix herbal powders in individualized formulae. Eligibility for the rotation is successful completion of the previous clinical rotation. Prerequisite: ACC 611 Chinese Herbal Clinic 1. Pre/Co-Requisite ACC 632 Chinese Herbal Clinic 2A. *0 lecture hours, 2 lab credits, 65 clock hours total.*

ACC 724

Chinese Herbal Clinic 3

Students continue to administer care to patients under the supervision of licensed faculty. Students will integrate herbal therapies with dietary advice and qi enhancement techniques. Students are monitored as to their progress toward completing the qualitative and quantitative requirements necessary for the successful completion of the program. Eligibility for the rotation is successful comple-

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Alumni Association

Upon graduation from the University of Bridgeport, students become a member of the UB Alumni Association. The overall goal of the UB Alumni Association is to maintain the bond between graduates and the University of Bridgeport. As members of the UB Alumni Association, alumni are asked to support the University's mission and its advancement. Alumni are encouraged to give back, visit the campus, attend events, and volunteer their time to Career Development and or Admissions. In return, the University of Bridgeport will offer its alumni opportunities to stay connected with each other and with the school, inform them of happenings at the University, and always welcome them back to campus.

A university can measure its success through the achievements of its alumni. The University of Bridgeport boasts a plethora of prominent graduates who reside across the country and around the world. They serve as corporate CEOs and university presidents, automobile designers, commissioners of education, political leaders, television stars and prominent athletes. Their accomplishments reflect well on their alma mater, which in turn extends its gratitude. UB alumni also devote time and energy to the University of Bridgeport by serving on the UB Alumni Association Board of Directors or University of Bridgeport's Board of Trustees; volunteering to work at events and mentor students; and updating the University on their accomplishments and whereabouts.

We would like to hear from you. Please email us at alumni@bridgeport.edu or call us at 203-576-4151.

The Student Right-to-Know and Campus Security Acts And Family Educational Rights and Privacy Act (FERPA)

The Student Right-to-Know and Campus Security Acts

The University is in compliance with the Student Right-to-Know Act of 1990 and Campus Awareness and Campus Security Acts of 1990. Reports, disclosures and other data are available in the University's Student Handbook, the Key to U.B., the Campus Public Safety Office and/or other official University publications.

The University of Bridgeport Campus Public Safety Office keeps statistics concerning the occurrence on campus of certain criminal offenses, which were reported to them or to the local police. These statistics are published and distributed annually to the entire University of Bridgeport campus community, and to other interested parties.

For further information, contact the Director of Campus Security, Dean of Students, or the University Attorney.

FERPA

The University of Bridgeport has designated the following types of information as directory information which may be disclosed without consent: Student's full name and alias, if applicable; address; University assigned email address; telephone listings; major field of study; degrees and awards received; dates of attendance; classification; participation in officially recognized sports or activities; weight and height of members of athletic teams; photographs; and enrollment status (undergraduate or graduate, full-time or part-time).

Parents or eligible students have the right to refuse to permit the University of Bridgeport to designate any or all of those types of information as directory information with respect to a particular student, thereby preventing its disclosure as directory information. Forms indicating the intent of the parents or eligible students to request information be withheld can be obtained in the Office of the Registrar, and must be submitted within the first five class days to be effective to avoid disclosure.

Notification of Rights Under FERPA

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights

with respect to their education records. Among these rights are:

1. Among these rights are to inspect and review the educational records within 45 days of the day the University receives the request for access. Students should submit to the Registrar a written request that identifies the record(s) they wish to inspect. The University Registrar will make arrangements for access and notify the student of the time and place where records may be inspected. If the Registrar does not maintain the records requested the Registrar will advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of their educational record that he/she believes is in accurate or misleading. Students should ask the University to amend the record that they believe is inaccurate or misleading. They should write the Registrar, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his/her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interests. A school official is:
 - A person employed by the University in an administrative, supervisory, academic or research, or support staff position, including health or medical staff.
 - A person elected to the Board of Trustees.
 - A person or entity employed by or under contract to the University to

perform a special task, such as security, building and grounds, information technology, food service, an attorney, auditor, collection agency or other outside vendor.

- A student serving on an official committee, such as a disciplinary or grievance committee, or who is assisting another school official in performing his or her tasks.

A school official has a legitimate educational interest if the official is:

- Performing a task that is specified in his or her position description or contract agreement, or is customarily performed by such person at the university.
- Performing a task related to a student's education.
- Performing a task related to the discipline of a student.
- Providing a service or benefit relating to the student or student's family, such as health care, counseling, job placement or financial aid.
- Maintaining the safety and security of the campus.

Upon request, the University discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

The Dean of Students or designee has the authority to notify parents or guardians when dependent students under the age of 21 are found to be in violation of the University alcohol and/or drug policies for: 1) possession of a keg or large volume, 2) dispensing alcohol to a minor, 3) possession or distribution of controlled substances, 4) under age possession or open container in a public space for a second time; or in cases where a student is subject to residence hall separation, suspension, expulsion or required emergency medical care because the student became ill from the consumption of alcohol and/or drugs. The notification is permissive and at the discretion of the university. The notification of parents or guardians is indicated when: 1) the violation involved harm or threat of harm to persons or property, or 2) the violation involved an arrest in which the student was taken into custody.

The Student Right-to-Know and Campus Security Acts And Family Educational Rights and Privacy Act (FERPA)

Nothing in these guidelines shall prevent university officials from notifying parents or guardians of a health or safety emergency, or when a student, under the age of 21 is found to have violated university policy with respect to the use and/or consumption of alcohol or drugs. Whenever possible, students will be informed that parental notification is planned in advance of their parents receiving the notice. The notification of parents is simply an act of notice and is not subject to appeal.

The Dean of Students or designee may disclose the name and a summary of the information regarding the final outcome of a hearing if the student is found to have committed an act of violence.

Students may file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

Family Policy Compliance Office
US Department of Education
400 Maryland Avenue, S.W.
Washington, DC 20202-4605

FERPA: Notice for Directory Information

The Family Educational Rights and Privacy Act (FERPA), a Federal law, requires that the University of Bridgeport with certain exceptions, obtain your written request prior to the disclosure closure of personally identifiable information from a student's educational records. However, the University may disclose appropriately designated "directory information" without written consent. Examples include:

- The annual yearbook;
- News releases
- Honor roll or other recognition lists;
- Graduation programs; and
- Sports activities sheets, such as weight and height of team members

Directory information which is information that is generally not considered harmful or an invasion of privacy if released, can also be disclosed to outside organizations. Outside organizations include, but are not limited to companies that manufacture class rings or publish yearbooks.

If you do not wish the University to disclose directory information without prior written consent you must notify the University by the 10th day of class in a semester. The student must contact the Registrar's Office, located on the Garden Level of Wahlstrom Library and fill out the appropriate paperwork. If a student makes such a request, the University has the option or either (1) withholding all information of the types specified and omitting the student's name from any published list involving such information or (2) seeking the student's written permission to release the information.

The University of Bridgeport has designated the following information as directory information:

- Student's name
- Address
- University electronic mail address
- Telephone listing
- Date and place of birth
- Hometown
- Citizenship
- Family relations
- Marital status
- Previous schools or training
- Academic year
- Dates of attendance and/or graduation
- Major field of study or academic specialty
- Instructors and courses
- Participation in sports and other officially recognized activities (including position, role, or function)
- Membership in officially recognized honorary, professional, academic, or social organizations
- Academic honors or achievements
- Special awards or recognitions received, scholarships, fellowships, assistantships
- Offices or honorary positions to which elected or appointed
- Eligibility for and performance records in athletics or other recognized forms of competition
- Height and weight of members of athletic teams
- Place and nature of employment

- Post-graduation plans
- Positions or achievements
- Hobbies, interests, and community activities
- Publications or papers presented
- Title of honors or graduate thesis
- For students seeking employment on job interviews, such additional information as has been furnished or cleared by the student with the understanding that it will be used in connection with applications or employment inquiries Religious affiliation, if volunteered by the students, will be revealed to the campus ministry, local churches, synagogues, and mosques.

Disclosure Information and Complaint Procedure

U.S. Department of Education Consumer Disclosure Requirements can be accessed at <http://www.bridgeport.edu/finaid/financial-aid-information-all-students/us-department-education-consumer-disclosure-requirements/>.

As an academic community, the University of Bridgeport seeks to practice constructive criticism. The University invites its students to bring issues of concern to the Dean of Students and/or the University's academic officers. Students also may bring unresolved complaints to the State of Connecticut, Office of Higher Education. The contact for that office is as follows:

Connecticut Office of Higher Education

www.ctohc.org
Sean Seepersad, PhD
Associate Director, Academic Affairs and Student Services
Office of Higher Education
450 Columbus Blvd, Ste 707, Hartford, CT 06103-1841
(860) 947-1837

Further Information

Further information can be found at: www.sheeo.org

Map to the University of Bridgeport



Directions to the University of Bridgeport

Connecticut Turnpike (I-95) Exit 27

I-95 SOUTH (TOWARD NEW YORK)

Take Exit 27. At the bottom of the ramp, turn left onto Lafayette Street. At the first light, turn left onto South Frontage Road and bear right. At the next light, turn right (by Harbor Yard Stadium and Arena) onto Broad Street. Proceed approximately one mile south, Broad Street turns right into Waldemere Avenue. At the first stop sign, turn right onto Park Avenue (arches to Seaside Park will be on your left). Go one block and turn right on Linden Avenue. Visitor parking is on left.

I-95 NORTH (TOWARD NEW HAVEN)

Take Exit 27 and proceed straight off the exit ramp, bear right. At the fourth light, turn right (by Harbor Yard Stadium and Arena) onto Broad Street. Proceed approximately one mile south, Broad Street turns right into Waldemere Avenue. At the first stop sign, turn right onto Park Avenue (arches to Seaside Park will be on your left). Go one block and turn right on Linden Avenue. Visitor parking is on left.

SOUTH ON ROUTES 8 AND 25

Take Exit 1 (Prospect Street/Myrtle Avenue). Continue straight off the exit ramp until the third traffic light, turn left onto South Frontage Road and bear right. At the third traffic light, turn right (by Harbor Yard Stadium and Arena) onto Broad Street. Proceed approximately one mile south, Broad Street turns right into Waldemere Avenue. At the first stop sign, turn right onto Park Avenue (arches to Seaside Park will be on your left). Go one block and turn right on Linden Avenue. Visitor parking is on left.

*Office of Admissions is on the 6th floor.

Merritt Parkway (Route 15)

SOUTH ON ROUTE 15 (TOWARD N.Y.)

Take Exit 52 (South fork) and bear left to Route 8/25 Connector to Exit 1 (Prospect Street/Myrtle Avenue). At the bottom of the ramp take a right onto Prospect Street to Park Avenue. Take a left on Park Avenue. Proceed South on Park Avenue, approximately one-half mile to the campus. Wahlstrom Library is on your left.*

NORTH ON ROUTE 15 (FROM N.Y.)

Take Exit 49S (South) to Route 25/8 Connector to Exit 1 (Prospect Street/Myrtle Avenue). At the bottom of the ramp take a right onto Prospect Street to Park Avenue. Take a left on Park Avenue. Proceed South on Park Avenue, approximately one-half mile to the campus. Wahlstrom Library is on your left.*

Directions from Campus

(Due to long-term construction I-95, the following are recommended routes back to I-95N & S and Routes 8 and 25N)

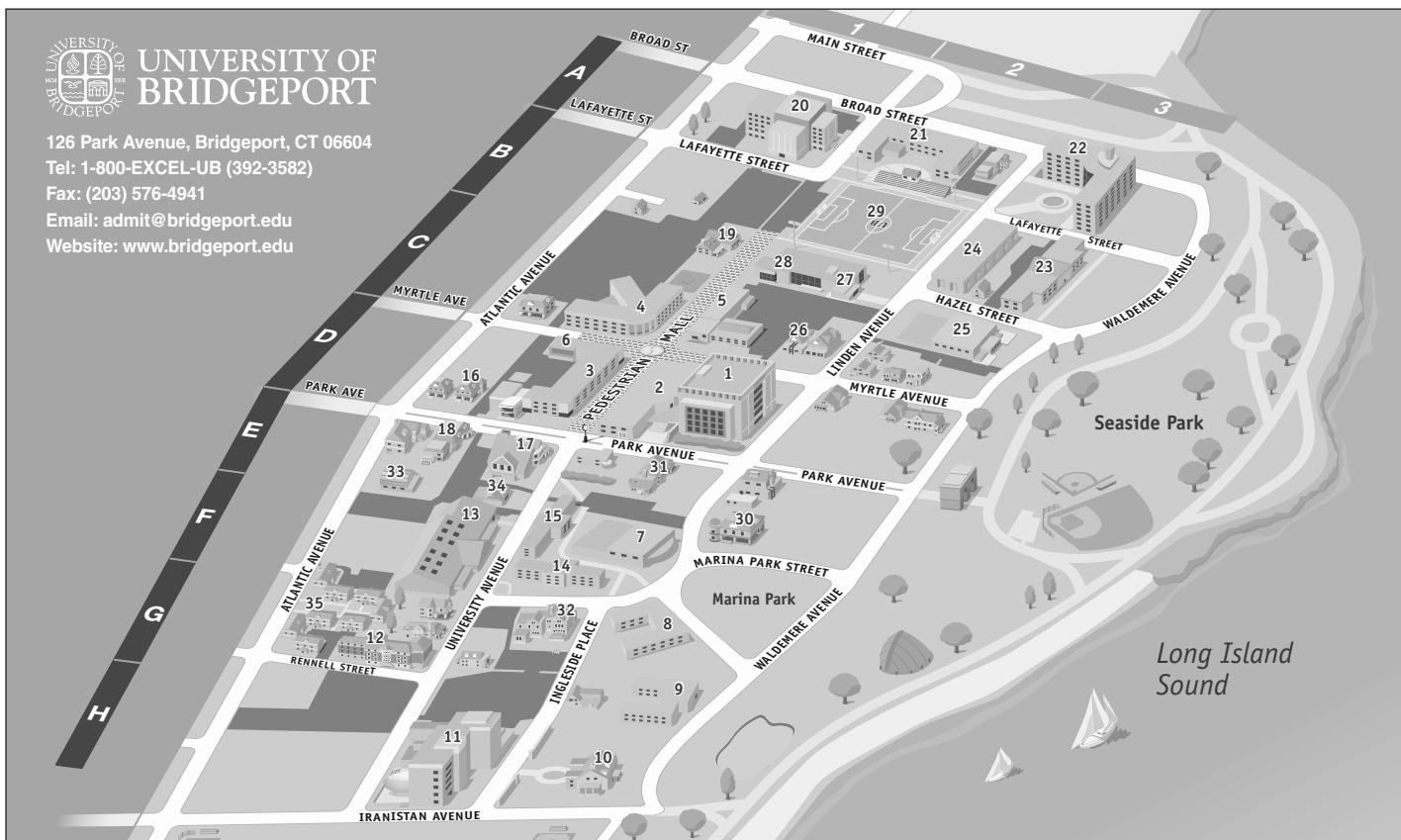
TO CONNECTICUT TURNPIKE (I-95)

From University of Bridgeport campus, travel North for one mile on Park Avenue. Take a right onto Washington Avenue. Follow signs to I-95.

TO ROUTES 8 AND 25 NORTH

From University of Bridgeport campus, travel North for one-half mile on Park Avenue. Take a right onto Prospect Street. Follow signs to Routes 8 and 25 North.

Campus Map



Building List

- 11** Arnold Bernhard Arts & Humanities Center
- 4** Bookstore
- 2** Carlson Building
- 19** Carstensen Hall
- 24** College of Chiropractic
- 17** Cortright Hall
- 28** Charles A. Dana Hall of Science
- 23** Eleanor Naylor Dana Building
- 25** Harvey Hubbell Gymnasium
- 22** Health Sciences Building
- 29** Knights Field
- 3** Mandeville Hall
- 7** Marina Dining Hall
- 26** Norseman Hall
- 25** North/South Hall
- 15** Wheeler Recreation Center
- 2** John J. Cox Student Center
- 5** Technology Center
- 1** Wahlstrom Library

Parking

Parking facilities are available at no charge to UB students and community.

Dormitories

- 8** Barnum Hall
- 20** Bodine Hall
- 15** Chaffee Hall
- 14** Cooper Hall
- 22** Health Sciences Building
- 9** Seeley Hall
- 12** University Hall

Function

- Academic Resource Center **1**
(5th floor)
- Acupuncture Institute **22**
- Admissions (6th floor) **1**
- Alumni **1**
- Art Gallery **11**
- Athletic Office **25**
- Bookstore (Basement) **4**
- Bursar (Ground floor) **1**
- Career Services (6th floor) **1**
- Cafeteria (Basement) **4**
- Catholic Services **19**
- Counseling Services **19**
- Dining **7**
- Dental Health Clinic **22**
- University Relations **1**

University Administration

- | | |
|--------------------------------------|----------|
| President's Office | 1 |
| Academic Affairs | 1 |
| Alumni/University Relations | 1 |
| Business & Finance (7th floor) | 1 |
| Student Services | 4 |

Deans and Directors

- | | |
|---|-----------|
| Arts and Sciences | 28 |
| Acupuncture Institute | 22 |
| Ernest C. Trefz School of Business | 3 |
| Shintaro Akatsu School of Design | 11 |
| Chiropractic | 22 |
| Education/Human Resources | 2 |
| Engineering | 5 |
| Fones School of Dental Hygiene | 22 |
| General Studies | 28 |
| Health Sciences | 22 |
| Health Technology | 22 |
| Naturopathic Medicine | 22 |
| Nutrition Institute | 22 |
| Physician Assistant Institute | 22 |
| Public and International Affairs | 2 |

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